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QUO VADIMUS?

'The progress or the retrogression of mankind is determined by the involved action and interaction of forces great and small, local and world-wide, economic, political, psychological, and biological. It is of the essence of statesmanship to endeavour to analyse the strength of these forces, and to direct them, so far as possible, into paths leading to the national good, or fearlessly to oppose those that are plainly dangerous.' [1]

THESE generalisations may claim to have held the field since the organised State emerged from tribal conditions, and ordered government, in some form, became possible. As constitutions came to be evolved, affecting to regularise the machinery of government, they appeared to assume more actuality. The duties of the statesman, where he could be found, seemed to have become defined, and his powers in dealing with national affairs to

[1] *My Working Life*: Murray, 1927.

be increased. Orderly progress depended upon him. He could 'analyse the strength' of the forces which were swaying the destinies of a nation, and he might prove capable of directing them to the common good and of controlling those which he recognised to be productive of evil.

History abounds in shining examples of Governments under which nations enjoyed orderly progress and prosperity, but also supplies appalling instances of failure, disorder and ruin. We ascribe these sharply contrasted periods to the genius and virtues, or to the ignorance, incapacity and wickedness, of individuals, and on the whole this judgment is not unjust. It must, however, be admitted that 'great forces,' not controlled, or controllable, by the brains of the leaders of the past, may have helped to determine the issues for good or for evil. In other words, what we, in our ignorance of first causes, are accustomed to describe as 'luck' may have entered into the great dramas which history unfolds.

Theories of evolution have, perhaps, created the impression that there has been an almost steady advance from the Aurignacian man to the *homo* regarded as *sapientissimus* of the present day. None of the many fallacies which we unconsciously assimilate could be more wide of the mark. We are not clear what 'progress' really is; but the onward march of man has never been continuous. We are only now beginning to discover the secrets of civilisations, advanced in many respects, which existed 5000 years B.C. and perished utterly, leaving only traces—long forgotten—which we now attempt to decipher. There is nothing more certain than that what we carelessly call 'progress' has been catastrophically spasmodic. It has been lost for centuries and then apparently resumed. In relatively modern times, the crashing of the Roman Empire left Europe in darkness and despair, to be partially dispelled by the Renaissance, which seemed to have reawakened reason, and conferred new triumphs upon the human brain, but may have prepared the way for another cataclysm if, as Professor Irving Babbitt holds, it led to 'the inordinate self-confidence of the modern man.'[1]

The great questions which most perplex and disturb all who seek to peer into the future are: Is there anything which differentiates the present age from all its predecessors, invalidating some of the teaching of history? and have new forces been created that are incapable of human direction and control?

Last century gave us the application on a large scale of steam power and consequently railways—great forces which produced a revolution, political, economic, social, and probably psychological. All this was the product of human brains which failed to under-

[1] *Nineteenth Century and After*, May 1928.

stand that a revolution had begun, and consequently neglected to direct it to the national good in the highest and best sense. The material results were notable and almost immediate. The spirit of enterprise, instinct in our national character, at once grasped the new possibilities; invention was powerfully stimulated; great factories sprang into being, and our island became—for a time—the workshop of the world. But we are still struggling, at vast expense and with incomplete success, to remedy the many evils of rapid industrialisation, which foresight could have averted. An incidental consequence of the nescience—perhaps inevitable—of our leaders was the uprising in this country of new political forces which cannot yet be gauged with accuracy. The arrogant and obscurantist Socialist manifesto, *Labour and the Nation*, recently issued with the blessing of Mr. Ramsay MacDonald, could not have been drafted if our rulers in the first half of last century had been endowed with vision.

The great railway systems were built out of the savings, voluntarily offered, of the people. Had it been realised that they would be a national asset of first-class importance they would not have been hampered from the start by the want of wise legislation, which added enormously to their capital cost. Later legislation, the crushing burden of rates, and other conditions, have reduced them to grave financial straits, and have obliterated in part the savings of their shareholders. Meanwhile they have to meet severe and increasing competition from motor transport for which arterial roads, destroying the amenities of the countryside, are being constructed by enforced taxation!

In the Middle Ages, invention conferring new powers upon mankind advanced with leisurely steps. Alcohol, gunpowder and printing appeared in Europe. The sailing warship gradually advanced to its zenith and its doom in the nineteenth century; but until the arrival of steam power the forces at the disposal of the engineer had hardly increased since the time of Archimedes in the third century B.C.

It can, therefore, fearlessly be asserted (1) that the present age *is* sharply differentiated from the past, and (2) that organic changes came about in a very short period. No one in his day grasped the potentialities of science so firmly as Bacon; but even his imagination could only have reached the fringes of what has been accomplished in less than 100 years.

Applied science in the present century has made advances far more momentous to the destinies of mankind and in a shorter period than those of the nineteenth century; and who would dare to say that progress of this kind is approaching finality? In the uses of electricity and of chemistry alone we have seen another revolution; while the marvels of motor transport, wireless,

aviation, and the cinema are only beginning to be unfolded, and the tremendous impulse to invention in all forms which the world war supplied shows no signs of exhaustion. Motor transport, freed before the end of the nineteenth century from hampering legislation, is already transforming the life of the nation, killing more than 4000 persons every year, impeding movement in many cases and creating new problems in the great cities of the world which may prove insoluble. In wireless and aviation we have vast new powers of communication, the effects of which defy alike prevision and regulation. By the cinema we are presented with unrivalled means of wholesome and inspiring education. It has already been permitted to do harm that could not be remedied in a generation, and we are engaged in efforts to direct and control it with small prospects of success. Can there be any doubt that we are confronted by new great forces 'incapable of intelligent direction and control'?

A Modernist philosopher has declared that:

> I see knowledge increasing and human power increasing. I see ever-increasing possibilities before life, and I see no limit set to it at all.[3]

To another class of mind these 'ever-increasing possibilities' suggest an appeal to the elemental passions of humanity.

> Millions of you are now armed, trained and disciplined. You have the power, if you have the will, to sweep away your enslavers for ever. Wealth to-day may be made as plentiful as water if you will but seize the enormous engines for creating goods now at the disposal of man in society.[4]

My reply to the philosopher is:

> 'Knowledge' will increase rapidly, and in the sense that, with no effort, a 40,000-ton ship can be steered in a gale; 'human power' will further increase; but the capacity of the human brain has not increased since the days of ancient Greece and Rome. I believe that, in some spheres, the 'limit' of the demands which it can fulfil has been reached—and passed.[5]

The 'calamity of modern times is that, both theoretically and practically, "things are in the saddle and ride mankind."'[6] This is a profound truth with far-reaching implications. The most cursory reflection reveals the fact that the net effect of the astounding recent developments of science is to place controlling power over huge material and financial forces in the hands of individuals. On the other hand, the whole aim of democracy

[3] Mr. H. G. Wells.

[4] Leaflet, entitled *Truths for the Workers*, widely distributed by the National Socialist Party during the Great War.

[5] *My Working Life.*

[6] *Nineteenth Century and After*, April 1928.

since its earliest conception has been to entrust political power to increasing mobs, which seem to have reached their limit in this and other countries. This involves a conflict which may wreck our present civilisation.

The centralisation of power, which has caught us unawares, is also leading to a revolution in the economic sphere. Innumerable inventions of many kinds have combined to facilitate the operations of 'big business,' and America, where advantage is taken of every helpful appliance more quickly than with us, led the way in forming immense business corporations. In 1870 the Standard Oil Company was started, and after a Napoleonic campaign, marked by vicissitudes and the slaughter of early opponents, it became a gigantic octopus controlling and fixing the prices of a great part of the oil production of the United States. World control was beyond the genius even of Mr. J. D. Rockefeller, and other powerful combines arose which have usually worked in harmony with their towering rival.[7] These immense organisations, wielding monopoly privileges, have endowed many individuals with great fortunes. Their momentum may keep them going; but whether they are really well managed is unknown, as in the case of all monopolies, and whether America and the world at large have benefited cannot be determined. It is clear only that oil has been more quickly brought to the world markets than if it had been handled by regional companies of moderate size, and that over-production has resulted. Of another huge American combine, the Steel Trust, also the creator of numerous millionaires, it seems now to be admitted that the advantages to the steel users of America and to the export trade are at least doubtful. The tale of immense unified undertakings in America is long and illuminating. The motor industry received a powerful impulse from the brain of Mr. Ford; but Mr. Raskob,[8] a great organising financier, has brought about a combine, 'General Motors,' which overshadows the Ford industrial colossus.

Germany followed the American lead in 'big business,' and has also built up immense industrial undertakings; but the agglomeration which the late Herr Stinnes brought together, and which he might perhaps have continued to manage, collapsed at his death. The cartel, in which the Germans specialise, is not a unitary organisation, but a federation of many elements with interlocking directorates formed to regulate prices, check

[7] The recent tiff, caused by the Standard Oil competitively selling products in part taken by the Bolsheviks from the property of the Royal Dutch, seems to have been adjusted.

[8] Formerly a Republican, but now selected as general manager of the Democrat Presidential campaign.

competition, and secure rebates, preferences, and favourable transport rates.[9]

With us the tendency towards great trusts is manifestly growing, though we still lag far behind America. The Imperial Tobacco Company has established a partial monopoly, and Imperial Chemical Industries is the latest example of what can be accomplished in this direction. Thus last year Sir Alfred Mond concentrated the management of Brunner-Mond, United Alkali, Nobel Industries, and British Dyestuffs. His board has acquired control of forty varied businesses and part control of thirty more. He has in addition effected a merger of anthracite collieries, and Imperial Chemical Industries has further a half-share in the Finance Company of Britain and America in conjunction with the Chase National Bank of New York. This octopus is not yet full grown. In the field of banking the 'big five' have swallowed up the lean kine, and the process has not ended. In this group centralisation there are manifest advantages, but also certain drawbacks, to country clients especially.

The formation of great newspaper syndicates is a portent of the present century leading to strange and far-reaching results. The commercialising of a great part of the Press, implying the concentration of large journalistic powers in few hands and the stifling of independent thought, has been intellectually demoralising. A paper must be made primarily to sell, not to lead or to instruct, and sharp competition has suggested devices of many kinds, ranging from free insurance, through prizes of all sorts which 'must be won,' down to the crude plan of sending an agent to previously advertised health resorts, equipped with Treasury notes to be handed to anyone who, displaying his employer's wares, may catch his eye! With some notable exceptions, a great part of the Press has almost ceased to be informative except when sensational news lends itself to headlines and to the arresting posters which proclaim what the democracy is believed to require. It deals faithfully with sport and the share market; but it undoubtedly destroys the sense of proportion of millions of readers who derive their estimate of values from its cursive columns. To manage a single great newspaper in the best interests of the nation and Empire is an ample task for one directing brain, and the regimented groups can only produce replicas of types ordained. That the Press wields political power, exercised by the great men who control the groups, has

[9] The whole question of the operation of cartels is extremely complex, and they can certainly be used unfairly in connexion with international trade. It is satisfactory to know that a committee of the International Law Association has been considering this and other aspects of a system little understood in this country.

been stoutly denied. I cannot here discuss this vexed question; but I distinctly trace a lack of interest in vital world movements, intellectual sloppiness, mawkish sentimentality, and a flood of generously advertised inanity, in great part, to the changed conditions of the Press in the present century. For current information on all that really matters we must rely mainly on the independent papers and on the serious reviews and magazines, *rari nantes* in a swelling tide of ephemeral trash.

In sharp contrast stands what may be called the subversive Press, ranging from pink to 'deepest red' in hue, and concentrating upon the overthrow of 'the existing order' by the ballot-box or by violence, according to the idiosyncrasies of its directors. It is always purposeful and often clever and attractive. It turns all incidents at home and abroad to political account, and it continuously preaches the gross economic fallacies which Marx borrowed and adapted to the consumption of the proletariat. To this steady stream of misrepresentation there is no adequate counter-current.

The fate of the nation and Empire having been entrusted to multitudinous electors of both sexes, all such qualifying information as they can absorb should be made available. We were bidden sixty years ago to 'educate our rulers.' This important function is not being discharged.

The formation of great industrial and commercial mergers and of financial trusts which is proceeding seems to be viewed without misgiving. 'Rationalisation,' a catch-word of the moment, is sometimes regarded as synonymous with the creation of such amalgams, and the Socialists, who propose to destroy all private enterprise, regard 'big business' with satisfaction as lending itself to easy nationalisation.

There are no supermen in a world where brain power is strictly limited, and genius is rare and capricious. The giant undertakings of to-day may be built up by born industrial technicians like Henry Ford, by bold financiers like Mr. Raskob and the late Captain Loewenstein, or by pastmasters of retail business like Mr. Selfridge and Sir Woodman Burbidge in this country, following American models. While methods differ, and in some cases the lure of financial power may be dominant, the effect is to place control on a large scale in few hands, and to this process the ever-growing developments of modern science seem to set no visible limits. The ostensible advantages are obvious. Mass dealings favour mass production, keep down overhead charges, conduce to effective marketing, attract the most capable men, and may, where not controlling prices, benefit the consumer.

There is, however, another side to this seductive picture. The 'big business' may pass beyond the directing power of the

human brain, and there have already been warnings of failure thus arising. The born genius in industry or in finance may not find a fully competent successor to his throne.[10] In the City, the advancing age of an outstanding chairman, when an adequate *remplaçant* is not in sight, may be regarded as discounting the prospects of a flourishing concern. Where a crash occurs on the large scale, it may be devastating, although, as has happened, the outside interests involved may be so gravely menaced that external support will be brought to bear to prevent the over-strained machine from running down. Failing such timely assistance, an alternative is 'reconstruction,' implying frequently heavy loss to shareholders.

While, in business operations of moderate dimensions, technical knowledge and administrative capacity may command success, 'big business' is dominated by finance, and the great financier, living in another atmosphere, may have objects apart from effective production. Again, the power and the number of purely financial corporations have greatly increased in our time, and where money or credit in few hands operates internationally, it may be capable of playing an inscrutable part in world affairs. Disraeli left us hints of such operations, which historians are accustomed to ignore. Among the great forces which tend to render mankind apparently helpless, high finance must be reckoned.

Although, as I maintain, the magnitude of industrial, commercial and financial undertakings seems to be passing beyond our powers of effective direction and control, the Socialist Party in its manifesto of 1918[11] proposed to place all production, transport and distribution, together with banking and insurance, under 'democratic control.' The colossal ignorance and 'inordinate self-confidence' of these theorists, and the stupendous bureaucracies which they will require, stagger the imagination. So long as private enterprise, on which civilisation rests, is permitted to continue, there will, in every sound business, be insistent inducements not only to advance but to preserve an economic basis. Make what is conveniently called 'the State' the sole financier, drawing upon enforced taxation, and there will be a catastrophe transcending the wreck of Russia.

We may speculate idly on the quality of the original contents of the Piltdown skull, or seek vainly to measure the intellectual

[10] The difficulty of finding suitable candidates for the higher posts is now a matter of frequent complaint. This does not imply a decreasing standard of ability, but only that the supply of outstanding brain power has not risen to meet greatly increased demands.

[11] The latest manifesto, prepared for the purposes of the coming General Election, embodies the same policy, but admits the 'inevitability of gradualness' and postpones the complete achievement.

capacity of the Sumerians and the pre-historic Chinese; but the Greeks, in art and literature, and the Romans, in government and law, set up standards which we do not surpass. There is no sign that the enormous growth of knowledge in all forms, or the great systems of national education now widespread, have been accompanied by a corresponding advance either in the receptive or the ratiocinative powers of the human brain.[12] We, 'the heirs of all the ages,' with our enormous apparent advantages, generally succeed best in the intellectual realm when we found ourselves on the wisdom of the past. Our historians may still learn from Thucydides, Plutarch and Tacitus. In sculpture we seemed to have fallen from the high ideals of Greek art when our instructors held up the works of Epstein, which Athens would not have tolerated, for our enlightened admiration. Compare Rima with the Elgin marbles! Until the genius who called himself Shakespeare, or frequently Shake-speare, appeared in the sixteenth century, the great dramatists of Greece had no rivals, and in clear thinking her philosophers, with infinitely less knowledge at disposal, can challenge those of to-day. Who, not imbued with 'the inordinate self-confidence of the modern man,' will assert that the human brain has increased in capacity since the great days of Athens, or those eighteen centuries later which produced Leonardo da Vinci and Michael Angelo?

It may be, and there are signs, that the intellectual achievements of the ancients will be smothered by the vast and increasing flood of modern authorship, as the waters of the Nile, stored by the engineer, have submerged some of the glories of old Egypt. I cannot tell; but it is at least extremely unlikely that any modern literature will have the same pervading influences upon the mind of man, even ten centuries hence, as still have some of the Hebrew prophets and the great classics upon the thought of to-day.

More inexorably follows. We are adding to our vast stores of knowledge at a speed sharply accelerated in the present century, and certain to become still more rapid, while we can set no limit to accumulations in the future. Mankind must, therefore, become relatively more and more ignorant. State education, costing over 100,000,000*l.* a year,[13] is pronounced by great pandits to be on wrong lines, and as the period of pupilage cannot be greatly extended, it must, even if reformed, grow progressively more inadequate. The time factor rules all mortals, and in the acquisition and retention of knowledge we are falling into arrears

[12] More individuals receive more knowledge of a kind and may have been made more receptive; but that is a different matter.

[13] With heavy increases in prospect.

that can never be made good. The older generation can best realise its ignorance.

Specialisation has long been necessary, and specialists must be more and more subdivided. Many and subtle disadvantages, lying beyond the scope of this article, will thus strew our onward path and will prove peculiarly baffling in the sphere of government. Ministers and Prime Ministers, especially in such a constitution as ours, may now have dire need of knowledge, which they cannot hope to find time to acquire. Parliamentary, departmental and social demands make it almost impossible for a Secretary of State at the head of a great department to do more than keep in touch with affairs directly concerning his own office. When changes are frequent, or unsuitable appointments are made, he may never accomplish so much. His charge may be divided into compartments, each under a real or assumed specialist, and sound departmental policy may require him to weigh and decide upon expert advice which conflicts. The Minister should therefore, in theory, be a super-specialist controlling specialists, which must generally be impossible. It may happen, however, that, relying on the arts of the advocate, he will hold a brief for the specialist's case which he does not fully understand. If so, he can usually count on ignorance in Parliament—his jury—and the plethora of ill-digested legislation, with which the Statute-book is being overcrowded, some of it wholly unintelligible to the millions who will ultimately be affected in person or in pocket, may thus be explained. This is one among many reasons for the decay of Parliaments. As Sir R. Mitchell Banks has pointed out, 'Parliament, as it has been, is a hopeless tribunal for such cases.' [14]

While the Minister must be increasingly deficient in the knowledge necessary for the control of his own department, he is still more heavily handicapped as member of a Cabinet dealing with all national policies, foreign and domestic. Knowledge, accumulating every day, is more and more needed in handling the multifarious matters in even the details of which Governments are now involved. Foreign and domestic affairs were relatively simple in the days of Pitt and Canning. The Minister of Health to-day deals with many matters fundamentally affected by research always in progress and by conditions constantly changing. This can be said of other departments of State, and knowledge, fully up to date and covering a wide range, is essential for the members of Cabinets as a whole. It is not their fault if they are not adequately equipped; the strain upon them is already too severe. The qualifications necessary for members of popularly

[14] The *Sunday Times*, July 15, 1928.

elected assemblies are sparsely distributed and will become more rare.

When the Great War burst upon a bewildered nation, which had been lulled to sleep when approaching peril should have been admitted and explained, ignorance of all kinds was manifested, with tragic consequences. Ministers at the beginning of the nineteenth century were familiar with war in Europe. The Liberal Cabinet of 1914 was temperamentally unfitted to ride the storm, and the process of swopping horses soon supervened. Not all the specialists whose advice they were at once called upon to accept, modify, or reject had made a deep study of the history and principles of the science of war. The South African campaign had created some illusions, and in the Navy heresies had been permitted to grow up unchecked.[15] The conditions at the start were thus ill-omened. Mistakes were made for which it is not easy to find excuses; but I believe that the direction, on a world scale, of the huge forces which applied science enabled the Allies to put into the field, to transport at will, and to supply with munitions of infinite complexity, involved new problems beyond the capacity of the human brain. The material forces served us well. That organisation of the intellectual forces, enabling the best opinions and all relevant experience of the past to be placed, in orderly shape, before the deciding authority, was wanting or ignored, is proved by the pitiful revelations of confused and futile counsels now forthcoming. We were learning for four years, by cruel experience at an appalling sacrifice of gallant lives and of irreplaceable treasure, until towards the end knowledge —some of it written large upon the pages of history—tardily dawned.

The story of Frankenstein's achievement and consequent fate was prophetic in a sense that Mary Wollstonecraft Shelley could not have realised in her day. Later writers, like Samuel Butler in *Erewhon* and Mr. H. G. Wells in *The Sleeper Awakes*, have brought fancy to bear upon some of the problems looming darkly before humanity.

While the great forces which science has created seem to be rendering some of those problems insoluble by the human brain, such is the irony of circumstances that available knowledge cannot be turned to full account. Researches into heredity have revealed the disasters which breeding from unsuitable stocks inflicts upon a nation. We can only make use of such knowledge, and with extraordinary success, in the case of animals; but we are powerless to check the continuous reproduction of detrimentals

[15] Compare Vice-Admiral Sir H. W. Richmond's excellent essays, *National Policy and Naval Strength*: Longmans.

or to prevent birth-control from threatening the extinction of classes of which the nation has absolute need. Medical science lays down simple laws which, if all individuals could be induced to obey them, would greatly reduce the amount of ill-health now a heavy burden on the community. We can develop sanitation; but the perversity of human nature continues to defeat us. The 18th Amendment and the Volstead Laws represent an heroic attempt to enforce temperance by legislation on a minority which could not learn self-control. This great experiment has in many places aggravated the evils it was designed to cure, while introducing others unsuspected by its supporters.

In the domain of government, the crazy theory of democracy, contrary to all knowledge and experience—that all men and all women are equal *inter se* and now that all women are equal to all men—is leading towards political chaos. A glance at the present conditions of most European States reveals a general absence of stability. Many countries are not being governed. The growth of numerous organised factions has led, in some cases, to incompatible coalitions. In other cases, we see farcical Cabinets, or painful gropings for them. When circumstances become plainly critical, we may note a Cabinet created *ad hoc*, or a 'business Cabinet,' or even the dismissal of Parliaments. Fascism at present stands out in demanding from a great nation that it should submit itself to discipline and trust the guidance of leaders who are not the chance products of democratic elections. This valiant effort can succeed only if the strong patriotic spirit aroused by Mussolini among the Italian people can be made to endure, and it would quickly be destroyed by a free Press!

With the decay of Governments, administration falls into the hands of bureaucracies, which stealthily increase in power even in our country. It is easy to show that democracy must spell bureaucracy, which, under a Socialist *régime*, would be supreme—and supremely tyrannical.

If it is true that we have created great forces which are passing out of control, some painfully visible aspects of our present psychology are explained. Apathy deepening into fatalism, feverish pursuit of pleasure, wasteful expenditure, confusion of right and wrong, easy tolerance of evil in part arising from the blind worship of 'Liberty' misconceived, strange cults producing sharp disagreements when national unity was never more needed—this and more may be due to a sense, felt but not acknowledged, of helplessness to direct our destinies. Much prevalent cynicism may thus be accounted for, and I am not sure that the impracticable idealism, which ignores the great forces and is now too common, is not due to a recoil of

the mind from the close study—regarded as useless when so much is uncertain—which all great questions demand.

We seem to be dominated by forces, visible or suspected, which will bear us whither we know not and which we cannot control. Wise, strong and stable Governments, which an aristocracy of intellect and character, chastened by ripe knowledge and experience, can alone provide, are vital to the survival of civilisation now menaced in varying degrees by the world revolutionary movement of long standing.[16] We have come to depend on general elections determined by voters easily influenced by bribes in the form of promises of immediate and unattainable material gains. The uncertainty entailed by these frequently recurring political gambles arrests the orderly advance of nations and adds to the sense of helplessness with which, like dwellers under the shadow of a volcano, we are apt to regard the future. It is natural that some of our instructors should lapse into pessimism, while there are others who insist that the end of the world—the ultimate solvent of all human problems—is close at hand or overdue, which tends to foster irresponsibility.

To the old it is given only to watch, to form detached judgments based on the varied experiences and impressions of a long lifetime, and vainly to warn.[17] The future, we are sometimes assured, rests with emancipated youth; but the youngest of our enfranchised rulers may well ask himself, or herself, *Quo vadimus?*

SYDENHAM OF COMBE.

[16] Powerfully stimulated in this country and elsewhere by the capture of Russia.

[17] As Mr. Baldwin truly said at Stockport on the 7th ult., 'a man cannot go on into old age leading the country, or one of the parties in this country, through times such as we have got to go through now.'

THE NOISE QUESTION

SINCE the end of the nineteenth century the steady increase in the amount of harmful unnecessary noise in all our activities and in the home has been so pronounced, and the number of people injuriously affected by it so great, that the problem of noise abatement can no longer be ignored by those responsible for the health of any nation. The noise question is a world problem, and a very comprehensive one at that, involving interrelated factors of a wide range and great importance—factors that, strangely enough, have hitherto received little or no attention from the authorities responsible for the health of the community. But the time has come when mankind must face the problem of noise abatement boldly and openly and overcome one of the greatest obstacles to progress—that deadly poison ignorance; in doing so we should remember Herrick's words:

> Attempt the end, and never stand to doubt;
> Nothing's so hard but search will find it out.

I use the word 'ignorance,' as I know of no other that quite accounts for that baffling indifference to harmful noise that is so characteristic of the generality of people who are not called upon to think. Such people are usually careful in conserving their eyesight, but do not seem to worry when their other pre-eminent intellectual sense (hearing) is affected by noises they dislike. It has ever been so, but he who understands the working of the aural organ—the most wonderful and most exquisite piece of mechanism in the human body—is ever careful to protect this gateway to the mind and soul, through which our feelings are exalted or tortured.

The complacent toleration of distracting noises to which I have referred is due to the fact that sound always in the ear is hardly heard, as it is a law of nervous stimulation that a continued activity of any animal structure results in less and less psychic result, and that when a stimulus is always at work it ceases in time to have any appreciable effect. Thus a constant noise, as of the sea waves, or the rumble of some kinds of traffic, may cease to produce any conscious sensation; and this explains

why a harmful noise may be mistaken for silence—an *illusion* that is far too prevalent. Hence the danger to public health, as, although noise may not be heard, the nerve-force suffers, the power of the nerve-pores and corpuscles being affected by the stimulation until it declines from exhaustion. Thus does physiology explain the paradox, but at the same time it points out the fallacy of supposing that noise can be harmless because we 'get accustomed' to it, or that our nerves are adapting themselves to the multitude of strains imposed upon them.

Strangely enough, there is a remarkable similarity in the insidiousness of the action of noise on the nervous system and of that of vitiated air on all the organic functions. For, as is well known, when we enter a vitiated atmosphere our breathing becomes laborious, and we may become slightly faint; the consequence of this is a depression of all the organic functions, and then the breathing is easy again, because we no longer require so much oxygen and we no longer produce so much carbonic acid from our lungs and skin.

It is a strange fact that many professional men, in writing on the subject of noise, tacitly assume that traffic and industrial noises cannot be abated, and suggest that, this being so, we ought to learn to enjoy them. This common fallacy cannot be too emphatically denounced, as such statements display a lamentable amount of ignorance as to the pathological powers of the modern engineer. The regrettable fact is that engineers have very rarely been called upon to design machinery of any kind from the standpoint of noise; and doubtless future generations will look upon these times as being barbaric—an age of folly vulgarised by an absence of quietude and repose, and notorious for uncontrolled devastating din that tortured the thinkers, deprived countless invalids and workers of recuperative sleep, impoverished owners of traffic route properties, increased the overhead costs in modern business, and shortened the lives of countless sufferers. In this connexion I think I ought to explain that my sincere, deep and lasting interest in the prevention, elimination or reduction of unnecessary noise was first aroused by some very pathetic cases of nervous breakdowns that came under my notice whilst I was professionally engaged on industrial noise problems many years ago. Had I not witnessed day by day and month by month the almost paralysing effects of intermittent nerve-shattering noise on men who were physically strong, I could not have believed it possible. Since then I never pass a hospital or nursing home situated in a busy thoroughfare without a feeling of pity for the poor sufferers within, whose very lives may be dependent on the recuperative powers of undisturbed sleep. If 'the advance of civilisation means but the enhanced

capacity of the human race for suffering,' that capacity of the ordinary citizen is being severely taxed daily by the effects of noise and vibrations in travelling to and from his workplace. Too often also when engaged on his daily work, and in the shelter of his home, he is distressed and tortured by the penetrating din from the streets outside. This aspect of the noise question is very extensive and important, calling for serious attention in a constructive spirit, for 'what man has caused man can cure.' We may first give some attention to the tube railways, which are such a great convenience to tens of thousands of people who use them daily, the Hampstead tube alone having carried 66,000,000 people last year. Now anyone who is consciously affected by noise must be mystified when he sees passengers on these lines so complacently tolerating the unbearable din that tortures the ears when a train is in motion. The distressing character of this noise can best be realised when a train is stopped in one of the tunnels; then there is dead silence, and most passengers are on the alert. Suddenly the train starts with rapid acceleration and with more or less violent jolting and vibratory movements; the crunching of the motor gears, all the carriage wheels singing at the same time, but with different notes, supplemented by the rattle of the windows and of the communicating doors (which the guards rarely fail to close with a bang), creates a crescendo of excruciating noise as the train thunders along. And the more or less fatiguing effects of this din, and of the vibrations, on the nervous system must surely affect the capacity for work, if not the health, of the passengers. I have heard that attempts have been made to reduce the noise in these trains, but, as a passenger, I have not been able to detect any improvement, and I have no hesitation in condemning these trains as being unnecessarily noisy, and therefore wasteful from every point of view. I should expect to find many of the carriage wheels worn out of truth, the permanent way in an uneven condition here and there, with occasional faulty rail joints, and the gears roughly made (and badly worn) compared with the beautifully ground noiseless gears procurable and used in the best motor car practice. The fact is it is no use tinkering with the secondary causes; the primary ones must be tackled. Of course, the basic cause of the vibrations, which are transmitted to the surrounding earth and intensify the reverberations in the tube, is the absence of any elastic medium between the rails and the supporting iron tube: there are difficulties in arranging such a medium, I am aware, but I do not consider that they should be regarded as insuperable; indeed, it is a matter for research and experiment. And the same remark applies to the construction of our roads carrying heavy traffic, as in both cases the vibrations set up are

transmitted to near-by buildings, with alarming effects in some cases. We have a notable example of this in the case of St. Paul's, but day by day we hear of houses trembling and of walls and ceilings cracking. Indeed, during the past few weeks I have had under observation a chimney shaft, erected years ago near a tube railway and a main traffic road, that is being so much affected by such vibrations that week by week a vertical crack some 12 feet in length is visibly developing, and calling for serious attention. These happenings are grave warnings; surely the responsible authorities are not waiting for some terrible catastrophes to occur to arouse them to the necessity for preventive action.

This brings us to the consideration of tramcars, as wherever these lumbering vehicles run they are the cause of the greatest and the most distracting noise—wide in range, and varied in character, as inhabitants of houses along and near their routes well know; for, in addition to their unbearable din, the vibrations of the road (due to the solid non-yielding resonant foundation that supports the rails) are transmitted to these houses, causing them and their contents to tremble each time a car passes, with the possibilities we have seen. The nuisance is bad enough when only a few cars pass each day, but in those main streets where a car passes every half-minute the noise is unbearable to some people, and injurious to all. Further, the tram rails become corrugated by wear, and have to be periodically ground flat. Obviously this can only be done at night; then the appalling noise deprives people of their sleep. Unfortunately, tramways have been established in almost every large town in the world, and everywhere there are people revolting against their use with growing intensity. But we are wise not to expend large sums of money in trying to improve an uneconomical system doomed to be superseded, an archaic system that is being rapidly replaced by the mobile and much less noisy motor omnibuses or by tractless trolley omnibuses. It is true that a large percentage of the noise due to the machinery of the car could be reduced by skilful engineering, but we should still have the awful din due to the rigid unyielding track to put up with. However, it is satisfactory to know that Colchester recently decided to scrap the whole of its tramways and substitute motor omnibuses, and that among the other towns that have replaced or are replacing their tramways with such omnibuses, or with trackless trolley omnibuses, we may include Chesterfield, Grimsby, West Hartlepool, Ipswich, Keighley, Oldham, and Walsall. Of course, the difficulty in London is that other means of conveyance must be provided for the countless thousands who travel by trams to and from their workplaces before the tramways can

be scrapped; in the meantime the ratepayers must stand their nerve-destroying racket and pay the annual deficit due to their use.

In the scale of street noises the exhausting din caused by old worn-out, ramshackle motor lorries and commercial vehicles that are allowed to run on our roads easily ranks next to the trams. A large proportion of these vehicles are only fit for the scrap-heap; these and many others that badly need reconditioning have worn (or broken) gears; loose bolts, bonnets, mudguards, doors and fastenings; tyres badly worn or broken, slipping clutches, and carelessly packed rattling loads; in fact, a general din of back-lash and wear is to be heard from every part of them as they rumble along. It must be admitted that most motor vehicles of the industrial and commercial types, when new, run in a fairly noiseless way, but too many of them are allowed to deteriorate through neglect, and they rapidly become a nuisance and wasteful and dangerous to run.

Modern omnibuses have become the most popular, and certainly the most convenient, of road conveyances, and in recent years they have been improved in speed, carrying capacity, and comfort, particularly by the provision of covered tops. With the eventual disappearance of the trams the omnibuses are destined to carry the bulk of road passengers in our towns and suburbs, so that every effort should be made to perfect them for this important service.

Having said so much in favour of the omnibuses, it is only fair to call attention to the fact that, although these vehicles when new run without objectionable noise, they are allowed through wear to become too noisy, particularly in gear-changing and in rapid acceleration in starting or in mounting a hill. Obviously their gears are not of the highest grade, accurately ground to the correct form, after perfect heat treatment, and therefore, after some wear, they rapidly become more and more noisy. Also some omnibuses are allowed to run on badly worn tyres, and this is a common cause of a great deal of shaking and vibration, particularly when running on a badly worn road. But if pneumatic tyres come into general use for omnibuses they will greatly improve the smoothness of running and increase the life of the vehicles and roads. The use of wood for the roofs of covered omnibuses and trams has somewhat increased the noise due to imparted vibrations; a material of the fabric type would be less noisy and lighter.

As to the taxi-cabs on our streets, a good proportion are far too much worn to be quiet running, satisfactory and safe, and this accounts for the number of these vehicles which from time to time break down and suffer from tyre troubles. On the other

hand, it is only fair to say that our taxis are usually driven with care and good judgment, particularly in the use of the horn. Indeed, the same remarks apply to the drivers of our omnibuses, who are, on the whole, the most skilful and careful I have seen in any country.

It is a strange fact that, although some motor cycles are being made so noiseless that when running at twenty miles an hour you cannot hear them approaching, except on a clear road in the quiet of the country, such machines are rarely met with, the truth being that such noiseless machines are very small in number compared with the hundreds of thousands of noisy machines that are allowed to race along our roads, making day—and often night as well—hideous with their ear-splitting exhausts, clattering valve gears, and screaming horns, the fiendish clamour reaching a climax when sudden, violent acceleration occurs, particularly on hills. It is true that for some little time after the issue of the Home Office warning on September 15, 1927, there was a noticeable diminution of noise, but motor cyclists soon found that there is little danger of being fined, so the beneficent warning is disgracefully ignored, and the nuisance continues; indeed, in every part of the country there is a growing revolt against it. So, in the best interest of all concerned, there should be a stern suppression of the exhaust and horn nuisances of cycles and all motor vehicles, and it should be illegal to have any such machine fitted with a silencer cut-out or to tamper with an efficiently designed silencer.

The large majority of horns in use are unduly strident, and they are used with quite unnecessary frequency. I have often suggested that they should be standardised by the Home Office, in agreement with the Royal Automobile Club, a somewhat low musical note being adopted. As to the high-powered electrical horns or hooters, the use of them in towns should be forbidden, as in some places on the Continent. It is a distressing fact that the more noise there is the louder the horn must be to make its message heard, and this vicious circle means torture to countless thousands, particularly to invalids, thinkers, and light sleepers. The bad driver on approaching a cross-road usually sounds a loud prolonged blast and proceeds at a dangerous pace, whilst the good driver slows down, as the horn can never be safely used as a substitute for the brake; as the pithy American couplet reminds us:

> They are gathering up the fragments with a shovel and rake,
> Where he only used his horn when he should have used his brake.

In many Continental towns drivers of all motor vehicles sound their horns in continuous chorus, in the hope of speeding

traffic. This insane practice is perfectly useless, but it creates a nerve-racking din which tortures the stranger who hears it for the first time; the natives, having become so well used to the deafening noise, are apparently unconscious of its harmfulness.

The skilful use of head lights by the good driver when the roads are becoming dark enables him to pass any bend in the road or any cross-road almost without a sound from his horn. Motorists are required to give audible warning of approach, but a great many seem to interpret this to mean that they should be shrieking every yard of the way. They should be taught that one of the hall marks of good driving is the most judicious use of the horn.

The subject of road construction, both in this country and abroad, is a big and important one calling for research and experiment, particularly in the construction of rubber roads of the 'Gaisman'-block type laid down in New Bridge Street, E.C., in October 1926. This resilient paving has stood up to its work and has apparently proved to be quite satisfactory. It has certainly gone a long way in the direction of providing a less noisy road surface of a non-slippery and non-vibratory character, which is so urgently needed in the main streets of towns in particular. On the other hand, it must be more fully realised that the dynamic effect of the heaviest motor vehicles is anything up to seventy or eighty times greater than that of horse-drawn vehicles, and that to reduce the road effects of these to a minimum greatly improved systems of suspension are called for. Rightly or wrongly, I have formed the opinion that there is something radically wrong in our modern method of laying road foundations of solid concrete some 12 inches thick which usually have to be broken up and remade every time the surface material is relaid, the breaking up involving the use of the ear-piercing pneumatic drill, a diabolical machine that rends the air for 100 yards or more, and necessitates the use of a noisy engine to work the still more noisy air-compressor. These drills are so harmful to the nervous health of the people that their use in towns should be strictly prohibited, unless some method is devised to silence them effectively. Quite apart from the injury to health, such noises impair the working capacity of countless people, and are therefore most costly to the nation. A typical example of this wicked waste was cited in a letter to the Press some time ago. The writer said: 'Only two days ago I endeavoured to carry out some intricate calculations in my office, but, owing to the interlude of the pneumatic drill in the street outside, I was compelled to leave my office in town and go to my home in the country to do my work.'

The fact is, the science and art of road construction has not

kept pace with the advance in weights and speeds of road traffic; but, happily, chairs of highway engineering are being founded in some of our universities, including London, and it may be hoped that the Ministry of Transport and the local road authorities will confer and initiate research and experiments and also institute investigations as to what is being done in other countries, particularly in the United States, to discover ideal types of roads for standardisation.

There are many miscellaneous noises that are distressing and injurious to health, causing loss of sleep and repose, and impairment of working capacity. The sound of a distant church bell can be very pleasing to the ear as one walks across a field, but few things are more irritating than near-by chimes when one is engaged in thinking, or the ringing of a clock bell every quarter of an hour when one is trying to sleep at night. Train and steamboat whistles are often very disturbing at night—the former in particular when they are accompanied by the banging and knocking of shunting operations. As to the latter, their loudness is such that they can often be heard at great distances. During the past year or two there has been an enormous increase in the number of people using 'loud-speakers' and gramophones, and too often these become instruments of torture to others living near by.

Certainly something will have to be done to curb such tyrannical selfishness if we are to enjoy quietude and repose, particularly in summer-time, when windows are open. Much could be written about nuisances caused by barking dogs, shouting newsboys, ice-cream vendors, itinerant musicians, barrel-organs, and the like; but all these, I am afraid, will be less distracting and injurious than the overpowering droning noise of fleets of aeroplanes at all hours of the day and night should flying become universal. There certainly is scope for an inventive genius to quieten these machines.

Men of affairs and executives in all our activities, upon whose clear thinking, sound judgment, and rapid decisions so much depends, can only efficiently work in a quiet atmosphere. To most of these the noises of typewriters and telephone bells within, and traffic or industrial din penetrating their offices from outside, are most distracting and fatiguing, and are inimical to business efficiency—in a word, most wasteful. But by far our greatest waste occurs in countless schools all over the country into which traffic noises penetrate, distracting the attention of both teachers and pupils, and fatiguing the former to such an extent that the breaking-down point is too often reached. The educational authorities seem to have no idea of the gravity of this state of affairs; but, apart from my own experience, the many letters I

have received from suffering teachers bring it home to me. The fact is the location and lay-out of schools in relation to main traffic routes, from the standpoint of noise, has never received attention, with the result that a large proportion of schools have been and are being built beside roads carrying heavy traffic; and windows of the class-rooms facing these roads have to remain closed to enable the teachers to be heard, even when they shout. These matters call for serious attention, as also do the acoustical properties of the class-rooms. The trouble is widespread, but to give a concrete example that is typical I may quote from the *Melbourne Herald* of May 18, 1928:

A grave statement about the serious effect of city noises, especially from heavy electric traction, was made to-day by the headmaster of University High School (Mr. M. S. Sharman). 'The work of the school is greatly affected by the trams,' said Mr. Sharman; 'we have made representations to the Tramway Board, which is concerned about the effects, and is endeavouring to minimise the noise by giving instructions to the drivers to slow down when passing the school. That does not relieve the situation much. The heavy trams are to blame. Speed makes the noise more nerve-racking, but the slowing down prolongs the din. It is impossible for teachers to make themselves heard during the passage of the trams. Frequently seven trams follow or pass each other during a continuous period. At such times all school work has to be suspended. It is affecting the health of the staff, and is one of the factors, though not the only one, which has led us to press the Government for removal. Ministers have attended at the school, and have had to stop speaking owing to interruptions from the trams. As to the children, there is no possibility of continuity of effort. They have to wrench their minds back to the subject under explanation after each period of noise.'

In our own country such educational waste as this abounds, but it gives me pleasure to cite what is being done at the antipodes, as Melbourne is giving a lead to the Empire—indeed, to the world—in its determined efforts to bring to a head the problem of noise abatement. As it is, in spite of the cankering effects of insufferable noise in all the world's activities, there is a strange apathetic toleration of the nuisance; for, as is always the case, when it is everybody's business it is finally nobody's, and the plague goes unremedied. Quite recently I saw a German marble-floor polisher at work in St. James's Street, London; it was a noise fiend of the worst type, but passers-by did not appear to notice its awful din. Many other noise-makers have recently made their appearance, apparently without protest. But, in concluding, I cannot refrain from touching on an aspect of the use of all pneumatic hand tools (so extensively used for road-breaking, riveting, caulking, etc.) that has not yet received attention, but calls for serious consideration and investigation, and that is the injurious effect of the intense vibrations on the spinal cord of the worker.

So serious may this be that I will venture to quote the great physician and hygienist, Sir Benjamin Richardson, M.D., F.R.S., who half a century ago wrote the following in his manual on *Health and Occupation:*

> The commercial traveller is subjected to constant vibration in the railway carriage, and not unfrequently suffers from that cause of vibration to a severe extent. He feels at first nothing that he considers to be important, but by-and-by he experiences a sensation of vibration which extends along the spine, and is, if not painful, uncomfortable. If this be borne for many months, as is often the case, the digestive functions are impaired, there is dizziness, frequent headache, and, in the worst class of cases, deficiency of power with numbness in the lower limbs. As a rule, the symptoms subside under rest and judicious treatment, but I have known an exceedingly troublesome and painful condition of body produced from this cause.

I have been privileged to review briefly in this article some of the salient features of a great subject, and, rightly or wrongly, believe that civilisation has never been confronted with such a malignant plague; but, happily, at long last its insidious and neglected growth has been (through the public-spirited action of Dr. T. G. Nasmyth and Dr. John Stevens) recognised by the medical profession, and a resolution was unanimously passed at the annual meeting of the British Medical Association at Cardiff, on July 24, about the effect of noise on public health. And on July 26 the Home Secretary, in reply to a question relating to street noises by Sir Robert Thomas, M.P., said he would discuss with the Ministers of Health and Transport whether anything further could be done. Further, I am informed that the Society of Medical Officers of Health has forwarded a suggestion to the Medical Research Council that 'the effect of extraneous noises on health' is a suitable subject for early investigation and research. And, best of all, I have reasons for believing that practical effect is likely to be given to the suggestion I ventured to make in my lecture (on 'Preventable Noise and the Thinker') to the Society of Women Musicians last November, that, preventable noise being a world-problem, an appeal should be made to the Medical Organisation of the League of Nations to consider its abatement in the cause of humanity.

HENRY J. SPOONER.

THE SCIENCE OF INDUSTRY

JUST as the political tumult and uncertainty led Hobbes to write his famous *Leviathan*, and so turn the attention of subsequent writers and thinkers to political science, so recent years of industrial stress have turned men's minds to the consideration of industry as a science. For a long time—all through the *laissez faire* period—the view was held that industry must muddle along somehow through strikes, depression, and bad feeling. Chronic dissatisfaction, unemployment, bankruptcy, and other ills were thought to be by-products of industry as inevitable as the smoke emitted from the factory chimney. The idea that industry should deal with its waste of humanity as well as with its material waste, and that both steps would be beneficial, is only now being accepted.

About the same time as the Mond Industrial Conference—early in July—another congress, less heralded but quite as important, was being held in Girton College, Cambridge. This was an international congress at which over twenty countries were represented. It met to consider 'the fundamental relationships in industry.' Employers, welfare workers, industrial psychologists, labour representatives—all those who have an interest in industry—were brought together to discuss its problems. By means of lectures, round-table discussions, reports, etc., attempts were made to understand divergent points of view and to see how far they could be reconciled. Because the congress was of a purely consultative character it became the focus of ideas far more freely expressed than would have been the case in an executive assembly. Through all the discussions emerged with growing clearness the idea of industry as a science, as an arm of society carrying out the necessary tasks of feeding, clothing, and housing the people. Viewed in this way industry, its relation to the community and those engaged in it, becomes a fascinating subject.

The keynote of the congress was contained in the pronouncement that work is a social function, and that, no matter what the ultimate political organisation of industry may be, there will always be human problems arising from the employment of persons in agriculture, industry, and commerce requiring special

consideration. Still further to widen the basis of the congress, it was agreed that political and religious factors which affect human relations in industry might be used as data from which to start. It has taken nearly a century for us to understand that technical relations in industry are not enough. But now questions of human relations are working themselves to the front. Like the British Empire, it may be said that the industrial system grew more by accident than design. Only now is it taking definite shape. Schemes of rationalisation mean that for the first time the mind of man is busy with the problem of industry as a whole and its relation to mankind. The industrial map or plan has still huge tracts of uncharted territory left blank. The bold outline, such as it is, comprises the big industries, especially those that can be grouped together in mergers or combines. On the productive side these great undertakings are blacked out, big and clear. We see the need for organisation, for efficiency, for the elimination of waste. On the distributive side the outline is still weak and hazy, while on the human side hardly any clear lines yet exist. But the whole is becoming more objective, and must become still more so.

The pooling of experience in such a congress among people with widely differing outlooks is invaluable. Questions of forced native labour allied with badly paid labour, which is technically free, are of the utmost importance, not only from the standpoint of those actually involved, but also by reason of the repercussions on industrial life elsewhere. India is a typical case. Here 30,000,000 are engaged in industry. More Indian capital is invested in the cotton industry than in any other, and the average wage of the worker is 1*s.* 11*d.* per day of eleven hours. In the jute industry the combined average weekly wages of three workers amount to 14*s.* 5*d.* The cotton operatives of Lancashire work thirty-two hours a week, while the Indian cotton operatives work sixty hours. In general Indian workers work twice as long as workers in similar industries in England. For the wage paid to one woman in Lancashire it is possible to employ from six to twelve Indian women in the cotton mills. How can Lancashire compete? Taken in conjunction with such books as *Lancashire under the Hammer*,[1] which tells the melancholy story of how the cotton trade has decreased by nearly 3,000,000,000 yards a year, while more than one-third of its machinery is lying idle, some of it being sold to competitors abroad at scrap-iron prices, it is clear that industry is a world affair to be viewed as a whole, and the provision of international standards of labour is needed on economic as well as human grounds.

Turning to the mining industry, the same position confronts

[1] B. Bowker: Hogarth Press.

us. Miners in India earn from 10*d.* to 2*s.* a day. Women, of whom over 60,000 are working below ground, receive from 8½*d.* to 10*d.* a day. It is well to know that woman labour underground is to be prohibited from April 1, 1929, in spite of the disingenuous 'human' arguments of some mine-owners that the miners (who come down from the hills) like their womenfolk to be working with them. The British miner, whose conditions are by no means luxurious, gets for one working shift as much as ten native miners. In India the majority of workers receive not more than 1*s.* a day. Nominal wages do not reveal the real position, because there is a maze of exactions, forfeitures and deductions. Fines amounting to from 8 to 10 per cent. of the miserable wages are common, and this system is particularly prevalent in the textile mills. Wages are paid monthly, on the 15th of the month, for the previous month's work, and this naturally gives rise to perpetual indebtedness. Moneylenders prey on the unfortunate workers, charging interest ranging from 75 to 300 per cent. Many workers never get out of debt. Millions of men, women and children get less than half the food they need. A committee appointed by the Government of Bombay reported recently that workers in the city get less than the diet prescribed in the Bombay Gaol Manual. In Bombay 90 per cent. of the workers live in the 'chawl,' or one-roomed tenements, where the death rate among babies has reached the appalling total of 800 in every 1000. Other Indian workers live in single-roomed mud huts (shared with cattle), open bamboo fretwork huts, or else by the roadside under the sky. This morass of humanity infects industry just as a malarial swamp spreads its evil vapours. Until it is drained and put right we shall have no health in our industrial system.

Linked with the Indian conditions are the facts about forced native labour in Africa. Some may remember the magnificent stand taken a few years ago by the Bishop of Zanzibar on this question. I had the privilege of hearing a report to the congress on this matter. The Westernisation of Africa is proceeding rapidly. Huge demands are being made for palm oil, cocoanuts, etc., for soap and margarine. Ninety-six per cent. of the palm oil supply comes from Africa. Rubber is poured into the inexhaustible market of Europe. The Gold Coast supplies cocoa; Uganda produces cotton. The conditions of rubber production in the Congo have been an international scandal. And it is probable that the conscience of Europe was more sensitive before the war, which has been succeeded by a mad scramble with the terror of ruin urging everyone on. It is wrong to suggest that industry in Africa is synonymous with sweating or slavery, but, in many parts, forced labour still goes on. Women with

children at their breasts are compelled to work. Men, women and children are conscripted for work on the roads. They toil for four days with hardly any food, and no shelter is provided. Sometimes they are lent out to private firms. All methods are used to recruit workers, from old-fashioned 'black-birding' to the imposition of hut tax, poll tax, the alienation of land, the allurements of drink and opium. Listening to this report on actual slave conditions, presented by Miss Byrd, a West Indian girl, we realised how terrible it is when primitive instincts of greed are reinforced by the immense power which modern industry gives over people's lives. Precisely for this reason is it necessary to emphasise the treatment of these submerged and helpless people who are not able to speak for themselves. Consequently I put this in the forefront of modern industrial problems.

Most appropriately this report came as a warning prelude to the discussion on scientific management, indicating the danger of losing sight of everything except production. The advocate of scientific management, Mr. R. M. Olzendam, of the Industrial Relations Counsellors Inc. of New York, stressed the need for efficiency, for the elimination of waste. He spoke of an American firm who, to encourage carefulness among their workers, promised that if the margin of waste were reduced they would place orders in their own shop which they had previously put outside. From the standpoint of the particular workers who obtained the extra work this was no doubt a sufficient inducement. But I wonder what was the attitude of the other firms who were deprived of their customary orders. To set shop against shop in rivalry does not make for any general solution of industrial difficulties. In America, too, it was agreed that a serious problem of 'technological unemployment'—*i.e.*, unemployment due, not to bad trade, but to the improvement of machinery, which is eliminating workers more quickly than they can be reabsorbed—now exists. Something more than a purely 'business' attitude is evidently needed. The case for more production, with everyone pulling together in order to secure higher wages and a higher standard of life, is attractive, if we can be sure it works out that way. It is just here that most of the advocates of rationalisation fail to carry conviction. Writing in the *Hibbert Journal* (July 1928) Mr. G. A. Johnston says: 'Rationalisation in its broadest sense simply means the application of every means furnished by technical knowledge and orgaisation to increase output.' If this results in 'technological unemployment' (to the extent of 4,000,000, as computed in America), it is not so very rational after all. The world is buried under goods for which no one can find a market, and the remedy shouted from the factory chimneys and through the megaphones with much beating of breasts is 'more production.'

Production is undoubtedly the kernel of industry; that is what industry is for. But mass production cannot be a success without mass consumption. From a world standpoint the problem of production is already solved. The important question now is the organisation of distribution, marketing, trade, so that stacks of goods are not stored up while firms crash and the too prolific workers walk about in want. A true rationalisation would tackle this first of all. The goods are there; our productivity is far greater than ever before in the history of the world. The notion that workers must be prepared to make ever more sacrifices of personality, of comfort, of life in the interest of production is grotesque. Taking the world as a unit and industry as a science, the problem of increased production is quite artificial. It simply does not exist. This is not to say that for each country, and especially for industrial countries like England, it has not great significance. We are all bound by market conditions, and must supply our customers cheaply or lose them. We are like people at the roulette table with the wheel spinning at an ever faster rate. We never know when the money is going to be pushed at us or swept away. But rationalisation should surely mean that we are not only to consider the hectic conditions of the world market, but the underlying factors of population, production, and the possibilities of a better distribution of wealth together with a growing appreciation of human values in industry. In so far as rationalisation ignores these questions it is not so rational as it might be. True rationalisation would explore all this. Conditions may narrow us down to the point of production, but we should always be ready to make a new approach, especially as there is no way out of the present *impasse* by adding to the goods for which there is no market. Future generations may regard with amazement our idea that we can cure the slump in the coal industry by adding an hour to the miner's day, or that the cotton industry can be stimulated by turning out more yards of superfluous stuff. Sooner or later the planning out of consumption on a world scale and the organisation of work on human lines will have to be undertaken.

In industry we have people thinking along group lines within definite limits. Psychologists speak of 'mental sets' when they want to explain how certain groups stick to their own tram lines, and have nothing to do with other groups except for an occasional collision. The mental attitude of the worker in industry who feels enslaved by the huge machines he tends, quite apart from whether conditions are good or bad, cannot be appreciated by those who look on from the outside. I deal more fully with this in my book *The Triumphant Machine* (Hogarth Press). The conflict between regular repetitive rhythms of mechanical produc-

tion and irregular human rhythms sets up all kinds of resistance and friction. This is usually dismissed as a conflict between efficiency and inefficiency by the business man, who cannot discipline his mind sufficiently to get a correct view of industrial relations, but who expects the manual worker to subordinate his mind and body to those forces. For himself the business man is intensely individualistic. He relies upon his keen-sightedness, nerve, a knowledge that over-reaches his competitor, a feeling for trade which he has in his fingers. Because of this he often resents the scientific organisation of the business side of industry. Why shouldn't the pikes be left to move freely among the little fishes? But that the industrial worker should require a measure of freedom in the workshop seems preposterous to him. The truth is that the worker who has learnt co-operation in industry is far more ready to help in the carrying out of a real scheme of rationalisation than are those cotton or coal lords who apparently will do anything rather than submit themselves to a common plan. The natural tendency of the shareholding group is to be suspicious of change, and the danger of this is that it leads to inertia. Those actually concerned with management have a sense of responsibility and are sometimes over-confident. They are inclined to resent criticism and regard themselves as the captain on the bridge. Shareholders and management sometimes come into conflict, as when some of the shareholders in the Mond chemical combine objected to money being spent on research and actually went to law about it.

The workers' group is now reaching out tentatively towards influencing larger questions of economic policy—these very questions of organised production, consumption, and human standards in industry which are envisaged for them in the idea of industry as a science. For the manager, as such, the intelligent worker has no feeling of hostility. Management is a skilled job, as those inside the workshop know. But the feeling in the workshop undoubtedly is that just as the shareholders can exercise pressure upon the management through their meetings, so the worker ought to be able, as part of the workshop organisation, to bring some organised pressure to bear. These ideas were discussed at the International Industrial Congress. Some favoured joint committees at which representatives of management and labour could jointly deliberate upon matters of workshop arrangement. But the joint committee, though it may be a useful piece of workshop machinery, cannot be regarded as the unit of organisation in the workshop. The fallacy underlying this idea is that all meet in a committee on equal terms. But it is clear that employees cannot deliberate with those who employ them on equal terms. The real danger is that, with workers inferior in education and

status, conscious of their inferiority and dependence, the workers' side will merely say 'Amen' to the management proposals. It is not fair or reasonable to expect workmen to formulate their opinions at a committee where the management takes the lead. And if opinion is stifled the whole purpose of workshop organisation is defeated. Discontent is intensified and will find other means of expression either inside or outside the workshop. On this point the statement (*Welfare Work*, May 1928) of the experience in a steel rolling mill is doubly of value because it is not made from the workers' side:

> In our experience a purely workers' committee is most effective. When a body of workmen meet together . . . they are not afraid to express themselves in their own way. There is therefore a much better chance of having a subject thoroughly thrashed out and of getting to the roots of a matter. There would not be the same readiness to get things off their chest and say what they want to say were any members of the management sitting with them.

The idea of works committees has persisted because it meets a real need. The engineering industry, by the York Agreement in 1919, recommended the setting up of shop steward committees in every establishment. The Mining Industry Act (1920) established district and pit committees, and the Railway Agreement (1921) set up an elaborate system of committees. Industrial depression has affected all these schemes, but the idea of works committees will come to the front again. The Liberal Industrial Report pays homage to the idea by proposing the compulsory establishment of works councils in all factories employing more than fifty people. Workers have been forced into the position of opponents or critics of workshop methods because their opinion and co-operation have never been sought. It was only by grumbling and threatening that they could ever get any changes made. If this position is to be altered, the works committee must have a wide scope. Questions of workshop management and arrangement must come up for discussion. If in any industry 'managerial functions' are a reserved subject, to that extent the committee will not be able to act in a constructive way. Employers are in this dilemma: either they must allow workers' committees to make suggestions as to management, or they cannot complain that workers ignore economic realities and content themselves with attacks.

Co-partnership and profit-sharing have little bearing on workshop relations, because their appeal is to the acquisitive instinct. These schemes do not necessarily carry with them any voice in workshop conditions. They do not appeal to any creative impulse. In the same way benevolent management falls short. With growing maturity, workers desire some machinery through

which their conception of industry may be expressed. As against the stultifying influence of mass production they want the right of individual assertion through workshop committees—the use of their minds as well as their fingers—in matters of shop organisation which affect their lives every day. On the question of how far repetition work is necessary and how it may be varied the workers' committee view is indispensable to any properly run industry. We are often asked by cautious people, Where will these committees stop? But we can leave the future to settle that. The real question is, where should they start? They should start in the workshop to deal with problems of maladjustment, of repressed individuality, of stunted lives. They are the necessary reaction against regarding the workers as man-power, as so much material. As they continue to function in the works they must be admitted as an integral part of workshop management. Their utility in the shaping of the social order will depend mainly upon the advancement of the workers in general.

Welfare work is another factor in the scientific organisation of the human side of industry. I am inclined to regard this as a temporary means of doing for the workers what later they will be able to do for themselves. Its value largely depends upon the spirit of the work and the understanding brought to bear. Those familiar with the workshop know there are two decided opinions as to its value there. I have been assured by people whom I respect that welfare workers are very helpful in workshops where women or young girls need someone whom they can approach with friendly confidence. On the other hand, I have been reading lately the record by a welfare worker of the work she is doing. In it she tells a hilarious story about a foreman. Perhaps she had better tell it in her own words:

> One day about a fortnight or more ago he surged into my room propelling in front of him a resentful and resisting young person called most inappropriately Lily. Pointing wildly at her he boomed several times oratorio-wise, 'Look at that!'
>
> I looked at *that* and gave murmuring voice to non-committal comments. . . .
>
> 'Look at 'er,' he continued. 'Comes into my room with a face like a badly printed paint can that's fallen into the flour barrel and then has the sauce to tell me that the light was bad in the cloakroom. I told her to go and wash her mucky face and never come no more in my room like that.' He gave me no time to speak, but went on with a vigorous and ruthless description of the modern girl, her questionable past and present, and her problematical future. I got in . . . sympathetically but firmly that perhaps I could take the matter over.
>
> The culprit's face by this time, through the tears of mortification and rage that had ploughed their glutinous way down her cheeks, had reached the plaid stage. I felt that words at this point could not really meet the

situation, so I invited her to wash and steered her to the basin, which was surmounted by an embarrassingly well-lighted mirror.

No quotation can really do justice to the delicate humour of this situation. The foreman, who controls the girl's power of earning a living, comes in prodding the girl and shouting abuse. Another woman, the 'welfare' worker, 'sympathises' with *him*. She gloats over the 'embarrassingly well-lighted mirror.' Apparently it never crossed her mind that decent girls should not be pawed about or abused by animals of this kind, or that it was a humiliation for her as a woman to be in the same room and allow it to go on. If it were necessary to speak to the girl—which I doubt—the foreman should have come to her and asked her to do it. The 'welfare worker' would not, I am sure, have seen the humour of the situation if she had been treated in this way. And it is cowardly to take advantage of someone's lack of education or inferior position to bully or humiliate her. The girl, it appears, was able to stand up for herself. But this does not absolve the 'welfare' official from doing her duty. I am certain that a properly organised workers' committee would have made a wholesome difference in that shop.

The conception of welfare work revealed here is one of servility to the worst kind of management—that of an irresponsible person who, being puffed up with a little power in the workshop, proceeds to make life miserable for those under him. It almost makes one sympathise with the American business man who, at the International Industrial Congress, spoke contemptuously of 'welfare artists and glad-handers' and said that in America they wanted none of them. However, I have heard of welfare workers in England who have had a finer conception of their responsibilities and have stood up to persons in authority who were making life intolerable for their subordinates. Sometimes the trouble appears to be sheer ignorance. A girl comes into a factory fresh from school or college as a 'welfare worker.' She is anxious to please those over her, and soon gets to regard the manager's pronouncements as the final wisdom, while the other girls who work there seem inferior clay. It is obviously a case for those vocational tests we hear so much about. If the experts could be tested it would be interesting to know just how many of them would survive. But the important point is that no machinery of benevolence linked with the management is an effective substitute for the workers' own self-protective organisation in the workshop. Failing this the number of petty tyrants may even increase.

There is little space to speak of the changes which the recognition of industry as a science is visibly producing all around us. In the educational field alone these are immense. Southern

Ireland, which is only now being drawn into the industrial orbit, is having increasingly to recast its educational system. Controversies are raging as to whether a system of general education is more suited to the needs of a modern industrial worker than is a better system of technical training. The president of an educational conference urged the futility of teaching a trade to a man who will in all probability spend his life pulling a few levers. He contended that it is far better to teach him about literature, art, and other subjects that will broaden his mind and counteract the narrowness of his life. The Commission on Technical Education, appointed by the Free State Government, reports, on the other hand, that it is necessary to teach young workers how to handle tools in wood, metal, and domestic craftwork, not only for the technical value, but for general educational worth. If the worker is not to be a stupid cog in industry, if he is to be able to readjust himself quickly to the severe and rapid industrial changes of to-day, he must, says the report, acquire this dexterity and get an education through his fingers which he might find it impossible to obtain through books. It is a hopeful sign that both sides in the controversy are considering the needs of the worker as a man even more than the productive needs of industry.

On the north side of Dublin is a collection of white-washed cabins huddled in a low-lying depression near the river Tolka. Once when the river overflowed these were flooded, and there was danger of considerable loss of life. But the water subsided, and in thanksgiving the people set up a statue of the Blessed Virgin in a square around which the white-washed huts cluster. Here on feast-days and holidays flowers are placed, while candles burn before the shrine. A month or two ago, across the road, a huge concrete garage was built. A row of gaily-painted petrol pumps, each surmounted by a shining globe, appear in the dusk like a row of gigantic candles burning before a rival shrine. Whether this is so or not, it is clear that our rude industrial civilisation is pushing its way in everywhere. We may lose the old-world, traditional beauty together with much that we shall not miss. But we are now at the point when we must control industry or allow it to control us. The loss of markets means the swelling of the unemployed army, trudging by empty factories waiting for their strength and skill. It means the suicide of financiers and the raising of others to eminence. It pulls down and lifts up irrespective of deserts and desires. So far we have been largely at the mercy of its whims. The recognition of industry as a science means placing it under organised control so that it shall function as an efficient productive machine while the humanity which is drawn into it and the goods that flow out shall also be considered as matters of general human concern.

R. M. Fox.

THE WELFARE OF THE INDIAN AGRICULTURIST

'A FUTURE of incalculable prosperity awaits India when she realises her agricultural kingdom.' Thus speaks the English statesman, who thinks of the marvellous possibilities of advance of which India is capable. The other side of the picture is shown by Mr. M. L. Darling, I.C.S., who has devoted himself to the study of rural economics in the Punjab, where the peasant is admittedly the finest of his kind in India. Even of this province, which produces a full half of the country's soldiers, he writes:

> What hope is there of prosperity for the cultivator whose farming is still the farming of the ages, whose land, as population increases, is more and more subdivided, whose fields are fragmented almost beyond belief, who often has not enough water and rarely enough manure, who is generally in debt and has to borrow capital at 18 to 25 per cent., who is obliged by custom to spend at least a year's income on every marriage, and who, if a Hindu, is virtually debarred from being a successful breeder of cattle? Man is too thick on the ground. The increase of 62 millions in the last fifty years has confirmed the sentence of poverty unwittingly passed long ago by the people themselves.

As will be seen from a perusal of the Report of the Royal Commission on Agriculture in India, there are grounds for both optimism and pessimism. Great Britain has done wonders on behalf of India already, and there is promise of great achievements in the future. On the other hand, there were numerous witnesses who appeared before the Commission who argued that the greatest obstacles to the prosperity of the peasant were the character of the peasant himself and the nature of the Hindu religion. As long as the doctrine of the transmigration of souls survives, animals must be considered to have an equal right to compete with man for the produce of the earth. Deer, pigs, monkeys, jackals, mice, squirrels, parrots, other birds, flying foxes, and numerous other creatures are all allowed to take their toll. Rats not only eat food valued at millions of pounds, but spread plague for the destruction and enfeeblement of mankind.

Perhaps the greatest tax on India is the sacred cow. Owing to Hindu sentiment on the subject, the country is called upon to

support millions of useless cattle, not good enough to do any work or to produce any milk. They cost money to keep alive, and are only valuable when they die of themselves, when their bones and hides are sold for a trifle. Elsewhere the best bulls are kept for propagation, the best milch-cows for breeding and the provision of milk, the strongest oxen for draught purposes, and the rest are eliminated when young as food for man. As this programme is impossible in India, India has to suffer, and does suffer, owing to the holiness of the cow, an immense economic loss.

Caste or religious laws block the way in many other directions. Elsewhere the cultivator breeds pigs, poultry or silkworms as subsidiary industries, but in India these are either prohibited or relegated to the care of the outcastes. Little can be done to restore to the land by farmyard manure, bone meal, and night soil the combined nitrogen which is annually removed by the crops. Many excellent articles of diet are taboo, and consequently the people lose in stamina. It has been found impossible to force public health principles upon a people bound by ancient customs, many of which are linked with their religious practices. In consequence, as a conference of medical research workers has testified, the wastage of life and efficiency which results from preventable disease costs India several hundred of crores of rupees each year.

Further loss is caused to the people of India by their own laws of inheritance, which lead to the subdivision of the land into minute fragments. This causes endless waste of time, money and effort; it restrains the cultivators from attempting improvements; it enforces uniformity of cropping, and restricts the growing of fodder crops in the period when the cattle are usually sent out to graze in the fields. Moreover, the total amount of land which lies useless is considerable. Even where land is more or less uniform in quality, subdivision is carried to absurd lengths. In one village five owners were found to have 100 plots each.

Against agricultural advance must also be set the inertia of the centuries. There were few periods in the recorded history of India anterior to the British administration when, over large tracts, the internal peace was not disturbed and the demands of the State were not heavy to an extent which made its possession a liability rather than an asset. The Grand Moghul was very grand, but the peasants lived in the direst poverty, squeezed to the uttermost. Those who lay in the track of the invaders from outside were in even worse plight. Their cry was, 'What we have eaten and drunk is our own; the rest is Ahmed Shah's.' Even under the best conditions there was little incentive to the cultivating classes to produce more than enough for the simplest needs. There are many who ascribe most of India's troubles to

the climate, but Mr. W. H. Moreland, who has given his life to the study of the subject, finds in history an adequate explanation of those features of the peasant's mentality which now constitute the main obstacle to economic progress.

The Government of India, in the past, has been obliged to base its actions on the conditions that it had inherited. In these days the alien language (English) has become so widespread as to make it possible for the fiction of unity to grow up, and another Commission is studying the question of how far it is possible to move in the direction of allowing British India as one entity to manage itself. It is therefore easy to forget what a short time has passed since the last of the fragments of a great mosaic was joined into the British Raj. It is only eighty years since the Punjab was rescued from the chaos into which it fell after the death of Maharajah Ranjit Singh, and the peaceful conditions which the *Pax Britannica* had brought were upset by the Mutiny seventy years ago. The first essential, therefore, had to be the establishment of internal peace and the safeguarding of the frontiers. The Afghan War of 1881 and the widespread frontier fighting of 1897 intervened, but even since then there have been events to disturb the confidence of those who are easily made nervous. In the Great War astonishing scares manifested themselves. The *Emden*, a single raiding boat, caused ridiculous rumours in Madras. In the Western Punjab communal riots occurred in two districts owing to a widespread conviction that the British were leaving the country. In another district villagers began to lay in arms, and when challenged replied that they had heard of the fighting of kings, and, not knowing what might be the result, were preparing to fight each other as of yore. The Punjab disturbances and the Afghan War of 1919, the Non-Co-operation Movement, and the numerous Hindu-Mahomedan riots that have followed naturally in the wake of the Reforms have all helped to keep up a feeling of insecurity.

The British have always been scrupulously careful to keep from doing anything which might appear to be opposed to the religions and customs of the people. Except in the case of the prohibition of *suttee*, or the immolation of widows, they have followed the lines of least resistance. Thus sanitation and education in the villages have lagged behind the needs, though not behind the desires, of the people. The economic wastage due to disease cannot be over-estimated. Malaria slays its thousands and lowers the economic efficiency of hundreds of thousands; plague and cholera sweep the country from time to time; hookworm disease, kala azar, and diseases arising from diet deficiency insidiously reduce the labour power of the cultivating classes. As to education, although there is a top-heavy system which is

mainly applicable to the people in the towns, the peasant himself has in the past had little to do with it. Less than one male in five over the age of twenty can read and write a letter. The majority of these belong to the towns or are moneylenders, shopkeepers, and petty officials in the villages. The figures for peasants, if kept separate, would come out very low. As to girls, only 50,000 female children in all India are learning in the fourth class in any one year. This means that women literates in the villages may be counted as *nil*.

In these conditions it is not surprising that the Government of India in the past has done best where it was possible to use its own efficient official staff for action on behalf of the peasant without any co-ordination on his part. Good communications are of great importance to the cultivator, for on them largely depends his opportunity for the favourable marketing of his produce. There has been active construction of railways and roads, especially since the great Orissa famine of 1866. This not only served to protect the country from future local famines by enabling the surplus of one place to move to another, but acted as a powerful stimulus to the agriculturists to provide food in excess of their own needs. As time has gone on, the old self-sufficing type of agriculture is in some measure being replaced by a more commercialised system in which the cultivation of money crops, such as cotton, jute and oilseeds, is increasingly prominent. In spite, however, of the developments of the last half-century, India must still be regarded as a backward country in respect of both railways and roads. With 7894 inhabitants to every mile of railway, India compares badly with South Africa, 605; the United States, 469; Australia, 238; and Canada, 222. The programme of the Railway Board is one of expansion, and it is expected that 6000 miles of open lines will be added during the next five years. A progressive policy will be welcomed and will be found likely to pay, for the rural population is very ready to take full advantage of the opportunities for transport by rail. The Punjab and Burma have established communication boards with wide functions and have embarked on an ordered programme of road development, and a Central Road Board for all India is under consideration. The Royal Commission lays stress on the desirability of organised and continuous effort in this direction, especially now that motor traffic is increasing everywhere, but points out that economy lies in concentrating on roads that feed the railways and the central markets. The senseless and wasteful competition between rail and motor traffic which is a feature in many European countries cannot be afforded.

Another step, taken in the past for the benefit of the country, has been the conservation of the forests, which comprise one-fifth

of the whole vast area of India. A large portion of this is under valuable timbers, but Lord Linlithgow and his colleagues are right in considering that much more might be done to utilise the minor forests on behalf of the people. It is not in human nature that men should pay as much attention to the lesser aspects of their work as they do to the bigger, and consequently the great timber-bearing trees bulk largest to the present forest staff. The Commission has come forward with a very sound suggestion that there should be a second establishment to be in charge of minor forests, fuel plantations, village woodlands, and waste lands now chiefly used for grazing. The suggestion is excellent and is bound to lead to great developments.

The irrigation engineers have performed wonderful feats in India. They have not only arranged to water annually 26,500,000 acres, of which an area equal to the arable lands of England has been added to the Punjab, but they have done this in many striking ways. Apart from works in progress in other Provinces, they are now, in Sind and the Sutlej Valley, arranging for the production of crops on two vast tracts, each larger than the whole of Wales. They have yet to construct other big canals and storage works. The Agricultural Commission could but applaud and voice the desire for energetic progress. The Report suggests the establishment of a central bureau of information to dispel the ignorance which sometimes prevails in one province with regard to action in others, and also presses for continuous work in irrigation research. It has, however, called attention to a definite defect, which is that minor irrigation suffers from the absence of a separate staff whose whole time should be devoted to it. The big men who think of millions of acres are not going to be bothered with little affairs. Yet lesser schemes dealing with hundreds and thousands of acres could be multiplied indefinitely.

Some years ago Sir Louis Dane, Governor of the Punjab, unable to get the Canal Department to take up a scheme for a minor storage dam, was successful in inducing the Roads and Buildings Branch to execute this work. It was small in itself, but of great local benefit to one of the dreariest wastes in the Punjab, where buffaloes, camels, and windmills struggled jointly but ineffectually to raise a trickle from wells 80 feet deep. Many years have elapsed without any similar site having been dealt with, but nothing more was done for want of motive power until, recently, certain minor works have been taken up by a Drainage Board. In the North West Frontier Province and in Baluchistan rains come but seldom, but come in deluges that tear down in destructive courses, to waste themselves in the sea. To hold such water would be valuable. In the United Provinces there is endless scope for small tank schemes. In these and other parts

of India much could be achieved if the Commission's suggestion is taken up and the necessary driving force is made available.

The expenditure of money brings back more, and on similar lines the Commission recommends that the engineers directly under the Agricultural Department should not have a jumble of different jobs thrown on to them, but those who study tube wells and borings should be separate from the men whose care is agricultural implements, while water lifts, where sufficiently numerous, should be in the charge of a different staff. Hydro-electric development is in its infancy in India, but there is necessity for forethought, careful examination of all possible sites, and consideration beforehand of new irrigation projects as sources of power.

It will be seen from the above that the Royal Commission on Agriculture, like the Government of India in the past, has been obliged to consider many matters that touch the welfare of the agriculturist rather than to concentrate its attention on agriculture and animal husbandry. Above all other things, water dominates the situation in India. Some years ago, when the Agricultural Department was in its infancy, it was the subject of some scoffing in an official report from a chief engineer of canals.

> To increase the productive powers of the soil by bringing water to it is the operation by which the State can most usefully promote agricultural improvements, and so long as the field for the discharge of this function is so fully engaging the attention of the administration, the efforts of the Agricultural Department to introduce new staples and scientific methods of cultivation must necessarily assume a minor degree of importance.

Water can be brought to the peasant by great canals, storage works, minor dams, tanks, borings and pumps through official agency, and the peasant has only to apply it to his land. Thus his share in increasing the productive power of the soil is reduced to a minimum.

Thus it is that, while an Irrigation Commission was appointed in 1903, it is only now in 1928 that an Agricultural Commission has reported to His Majesty. The Agricultural Departments of India only date from 1905, and, though the Imperial College of Pusa was started in 1903, it was a gift of 30,000l. from an American gentleman, Mr. Phipps, that set it up on a sound basis. The departments vary in size in different provinces, but are not really strong in any. Only six agricultural colleges were started—in Poona, Cawnpore, Nagpur, Lyallpur, Coimbatore, and Sabour. One in Mandalay was opened three years ago, but against that the college at Sabour was closed in 1921, leaving the enormous area of Bengal, Bihar and Orissa, and Assam without any attempt at provincial research. These three provinces with 95,000,000

inhabitants do not spend between them as much on their agricultural departments as the Punjab with 20,000,000 inhabitants.

The weak Agricultural Departments have, during the short time that they have been in being, achieved many notable successes in the introduction of new crops, improved varieties of crops, and new methods of tillage. Really good results have been obtained for cotton and wheat over a large area, the triumphs in jute and sugar cane have been substantial, and ground-nuts, a very profitable crop, have been substituted on several thousand acres for staples worth little. On the other hand, not one hundredth part of India's major crop, rice, has been affected by modern knowledge, though 80,000,000 acres are concerned. Millets, which form the diet of a large section of the population, have hardly been touched, and no startling progress can be recorded with regard to oilseeds. A legitimate cause for complaint lies in the fact that the knowledge that has been won by research has remained too long in the neighbourhood of the agricultural colleges and has crept outwards somewhat slowly. The explanation for this, again, is to be found in the small expenditure of the Government of India and of the provincial Governments. It has been calculated that the total sum thus spent is less than the amount which India has to pay to subsidise the steel industry, a matter of practically one firm only. It is most desirable that the strength of the machinery for the acquisition and distribution of agricultural knowledge should be increased very substantially.

Fortunately for India, one movement, stimulated by official agency, has really obtained a firm hold among the peasantry. Co-operation, which only began to take shape twenty-three years ago, was not the outcome of any popular demand on the part of the Indians. It was in the initial stages essentially an endeavour by the State to teach the people the advantages of organised thrift, self-help and mutual assistance. Under the guidance of selected British officials rapid progress has been made. In 1927 there were 67,000 agricultural societies with 2,250,000 members. Success has been uneven, but in the Punjab, Bombay, and Madras very substantial. Something has been done to relieve the cultivator of that burden of usury which he has borne so patiently through the ages. The Royal Commission, looking as it does to the welfare of the agriculturist, naturally takes a keen interest in that side of the movement which aims at enabling the peasants to stand financially on their own feet. It sees in co-operation much more than this, and hopes that from it will come the brightest possibilities on behalf of agriculture. If the agriculturists in the mass are to be won over to the use of better seeds, to improved methods of cultivation, to the better care of cattle, and to the adoption of precautions against animal and plant disease, it must

be through the agency of their own organisations. Nothing else will suffice.

It is certainly the case that the organisation of demonstration and propaganda in the past has been very deficient, and the knowledge that has been acquired at Pusa and at provincial research institutions has not been spread to the people as vigorously as it should have been. Under the conditions of illiteracy which prevail in India, where 90 per cent. of the people cannot be approached by the medium of the written word, the only hope of convincing the cultivating classes is by ocular demonstration. Various methods have been tried, but the Commission argues in favour of demonstration on small plots belonging to actual cultivators, but worked by them under departmental direction. At present the agency for the distribution of pure seeds of types that are suitable to the locality is defective, and the unfortunate peasant too often has to take any seed that is given to him by the village shopkeeper, who is also the moneylender. Seed farms should be established in numerous localities, and separate machinery should be set up within the Agricultural Department to deal with seed distribution and seed testing in unison with the co-operative societies. Provided that the subject is attacked in a great number of typical places, the Agricultural Commission is certainly right in advising concentration. The conversion of a whole village to good seeds, new crops, or new methods of tillage is of far more value than that of a number of isolated cultivators in a wide area. Here again the co-operative societies, or the 'better farming' groups such as are established in various parts of the Punjab, will be found useful centres for the campaigns.

It is impossible to touch on all the methods that will make for advance in agriculture which have been examined so carefully by Lord Linlithgow and his colleagues. As to animal husbandry, it does not seem possible to do much more in Hindu areas than the provision of good bulls and the elimination of worthless brutes as breeders by the Burdizzo method of castration. By this the shedding of blood is avoided, and religious objections formerly raised by Hindus are reported to be disappearing. The main difficulty for those who would really like to breed good animals is the period of scarcity in the two or three months preceding the break of the south-west monsoon. It is the hardship endured throughout this period that makes the cow an irregular breeder, that reduces her natural milking qualities until she is unable to suckle a healthy calf, that leads to the scarcity of good bullocks, and covers the village grazing ground with the cattle deplored in every one of the volumes of evidence before the Commission. Various proposals have been put forward as remedies for this state of affairs—growing of fodder crops, grazing of waste ground

or minor forests by rotation, cutting and storage of dry grass, silage, chaff cutting and the use of cheap meal; but the problem is a difficult one and calls for continuous study.

Certainly much more might be done to check the excessive mortality amongst the animals. Rinderpest, hæmorrhagic septicæmia, and foot-and-mouth disease take a very heavy toll. It is, of course, difficult to do a great deal for animals in a country where the huge wastage of human life is treated with acquiescence, but various suggestions have been made to check that burden of cattle disease which so impoverishes agriculture. Among other proposals is one for a large increase in the strength of the Veterinary Department, and, true to the principles that the Commission has adopted in respect of other departments, it suggests that the staff for the prevention of diseases should be kept separate from the men engaged in curing diseases and injuries.

It is rightly argued that the basis of all agricultural progress is experiment, and that unless the organisation which is built up for demonstration and propaganda is based on the solid foundations provided by research, it is merely a house built upon sand. It is now proposed that an Imperial Council of Agricultural Research should be constituted, a primary function of which would be to promote, guide, and co-ordinate agricultural research throughout India. This should be a powerful body, including thirty-six members representative of every major province and of many important interests. It should have at its head a chairman of outstanding personality, an experienced administrator with a knowledge, if possible, of Indian conditions. He should be aided by two whole-time members with eminent scientific knowledge of agriculture and animal husbandry. This council should be strengthened by the possession of a substantial research fund, with which, among other things, it can supplement provincial activities. Research knows no boundaries. Work on rice in Madras may be of profound importance in Bengal. If one province has a success among the millets which have been neglected so far, this will be of value throughout India. The water hyacinth nuisance affects four provinces at least. The Imperial Council suggested will see that all the agricultural research institutes throughout India shall be in touch with each other and that a new spirit shall be infused into the whole organisation.

The Royal Commission is anxious that the very best men available shall be recruited to all the agricultural services, and is evidently nervous lest the cry for Indianisation leads to the appointment of men not fully qualified. It is certainly essential that there should be a staff of the highest calibre, capable not only of initiating and directing all branches of agricultural work,

but also of creating and sustaining an atmosphere of research in which Indian students may find inspiration and the opportunity to develop to the full their natural capacity. There is no reason to believe that educated Indians will not realise this, or that they will wish to move so hastily as to gain little.

If for reasons already recorded it has taken a long time in the history of British India before an Agricultural Commission has been appointed, it must be admitted that Lord Linlithgow and his four British and four Indian co-workers have arrived at a Report of the utmost value, adherence to which should greatly enhance the wealth of India. The advice that has been given concerns 250,000,000 people living in a country of over 1,000,000 square miles. The burden now lies on the Government of India and on the provincial Governments to rise fully to the occasion. Seventy-four per cent. of Indians are dependent directly on agriculture, 89 per cent. live in the 500,000 villages, and to all India the adage applies, ' Perfect agriculture is the foundation of trade and industry. It is the foundation of the riches of the State.'

AUBREY O'BRIEN.

AFFAIRS ABROAD

We are vain enough to imagine that events with which we are connected, albeit by the remotest of links, such as the ability to recognise one of the protagonists in the street, or even the very fact that the events take place during our lifetime, are of the most tremendous importance. If the weather is hot we want the temperature at Kew to be higher than any temperature ever registered before, and I was amused by my own sense of satisfaction last winter when, after shivering in a cold house in the country all one week-end, I read on the newspaper placards as we drove back to London in the bitter hours of Monday morning that the frost had been a record one. Of course there is a corresponding kink in the human brain which prevents us from recognising the important days in history until, if one may be permitted a paradox, they have long been forgotten. But that is neither here nor there. The point I set out to make was that, despite the tendency to exaggerate the number of our red-letter days, we may safely predict that August 27, 1928, will be widely remembered, certainly for a decade, probably for a generation, and possibly for a much longer period still. It may rank with August 4, 1914, November 11, 1918, and January 10, 1920. For even if some of the statesmen who have met in Paris to sign the Kellogg Pact have their tongues in their cheeks and secret understandings up their sleeves, the very existence of a document in which the principal nations of the world—with the awkward exception of Russia, of course—pledge themselves never again to resort to war to further their national policy must have a considerable influence on the future of international relations.

That far even the most cautious prophet might venture. Only the bold or the rash would predict how that influence will work. No treaty in the world is nearly as important as the public opinion behind it, and we have yet to see how public opinion will interpret the Kellogg Pact. If it is taken literally, it may prove to be a more valuable document, from the point of view of the maintenance of peace, than the League Covenant itself. If it is taken as meaning what it does not say, its effects may be extremely unfortunate. At present two dangers appear to face this Pact,

and for both of them the British Government is given, in the newspapers, the lion's share—or should it be the mouse's share, since the lion would only take what it liked?—of the blame. It is to be noted that in all the preliminary correspondence Mr. Kellogg never referred to the existence of the Monroe Doctrine, whereas Sir Austen Chamberlain, in each of his replies, called attention to the existence of 'certain regions the welfare and integrity of which constitutes a special and vital interest for the Empire's peace and safety,' and on July 30, in the House of Commons, he defended this enunciation of a British Monroe Doctrine by suggesting that an American reservation of the same sort was implicit, if unexpressed, in the Kellogg Pact. 'Does anybody suppose,' he asked, 'that the American Government, in proposing this treaty, means to abolish or change a single policy in regard to their Monroe Doctrine? Clearly not. In every treaty of arbitration which the United States Government has signed, they have reserved all questions relating to the Monroe Doctrine.' We are now assured from American sources that Mr. Kellogg avoided reference to the Monroe Doctrine, not because it was taken for granted, but because he felt that the existence of a treaty outlawing war made this doctrine superfluous, although, apparently, he did not like to say so for fear of causing alarm among those members of the Senate who prefer old treaties to new. We are further told that the Foreign Secretary's insistence on a British Monroe Doctrine will so much excite the Senate that it will either demand a revision of the treaty, so that an analogous American reservation may be inserted, or it will reject the treaty altogether, with disastrous consequences to all hopes of closer collaboration between the United States and Europe, and particularly between the United States and Great Britain.

One is at a considerable disadvantage in being compelled to write about matters which are likely to develop before what one has written appears in print. But it is significant that so influential and level-headed a publicist as Frank Simonds is now urging his American compatriots to reject this Kellogg Pact. On the other hand, it is surely impossible that a document of such importance should be imperilled because Sir Austen Chamberlain has spoken too clearly, or Mr. Kellogg not clearly enough.

The other danger to the Pact is really less a danger to the Pact than to the League Covenant. Mr. Kellogg, in his speech to the American Society of International Law last April, made it clear that each signatory State 'alone is competent to decide whether circumstances require recourse to war in self-defence.' In their replies, both Sir Austen Chamberlain and M. Briand re-echoed his words in a way which may be flattering to Mr.

Kellogg, but which has alarmed many supporters of the League of Nations. In point of fact, members of the League would appear no longer to have this freedom of decision, since the Covenant pledges them to submit all dangerous disputes 'either to arbitration or judicial settlement or to inquiry by the Council, and they agree in no case to resort to war until three months after the award by the arbitrators or the judicial decision, or the report by the Council.' Further, all members of the League are under the obligation to combine in police measures against a State which has resorted to war in violation of this pledge. Even in the Locarno treaties, which many people thought weakened the League, a State which goes to war has to defend its action before the Council and runs the risk of being treated as an aggressor instead of an upholder of the legitimate right of 'self-defence.' It may be remembered that Greece tried to justify her advance into Bulgaria in October 1925 by arguing that she had only taken measures of legitimate self-defence. The plea failed, as both Sir Austen Chamberlain and M. Briand held strongly that Greece should have appealed to the League instead of taking matters into her own hands, and Greece loyally paid up a handsome fine for her hasty action. It is clear, argue League supporters, that, under the Covenant, it is the community of nations, and not the individual State, which has the right to decide when a war is one of self-defence. Nations have abandoned this right in return for a recognition by the other nations in the League that they must protect a law-abiding State against an aggressor.

Perhaps the perfectly legitimate desire to protect one's country against invasion has led Sir Austen Chamberlain and M. Briand into saying something that they might have expressed otherwise. But they both go on to declare that nothing about the Kellogg Pact must 'weaken or undermine' the obligations of the Covenant of the League. This statement has as much legal value as the statement about the right of a country to decide when it is fighting in self-defence, and more prominence should have been given to it by the critics. When the American Senate has had its say about the Pact there will be time enough to study in greater detail the effects of that agreement on the Covenant, and *vice versâ*, and further steps will have to be taken to convert the Kellogg Pact from a simple pledge to renounce war into something which will definitely replace war by arbitration. While there may be a tendency in Europe to exaggerate the extent of the American revival of interest in other parts of the world, it is encouraging that the supporters of the outlawry-of-war movement now agree that the Kellogg Pact is merely a vague pledge which must be followed by definite legislation. They differ from the supporters of the League in that, instead of submitting

disputes to the Council, which is a political body, they would wish to have them submitted to a new World Court, with greater powers than are possessed by the Permanent Court of International Justice at The Hague. In time they will perhaps agree that both Council and Court are necessary, the one to stop the fighting, and the other to decide which of the combatants was in the wrong. It is obviously of the greatest importance that international disputes should be settled by as impartial a body as can be devised, but a magistrate sitting in a court of law is not of great value unless there is also a policeman who can bring the criminal to him for judgment.

Let us hope that August is an auspicious month for pacts. If you visit Switzerland on August 1 you will find the country decorated with flags and the Press filled with articles to celebrate an early but very successful Pact, the 'Everlasting League' of August 1, 1291, in which the men of Uri, Schwytz and Nidwalden signed their treaty of mutual defence, the basis of the Swiss Confederation. Will Mr. Kellogg's Pact, one wonders, be studied with reverence and gratitude, in another 600 years, by visitors to some museum in Paris, as the Pact of August 1, 1291, is studied by visitors to Schwytz?

The Anglo-French Naval Agreement, the existence of which Sir Austen Chamberlain announced so unexpectedly in the House of Commons on July 30, has given rise to nearly as many gloomy prognostications as the Kellogg Pact itself, to which, of course, it is closely allied. On the face of it, a compromise on a problem which has hindered progress by the League's Preparatory Disarmament Commission, and which had a good deal to do with the breakdown of the Three-Power Naval Conference last summer, is warmly to be welcomed. But French papers have not hesitated to declare that coupled with this naval agreement is a British promise to support the French claim that when plans for the limitation of land armaments are drawn up trained reserves shall be left out of account. The existence of such a *quid pro quo*, it has been argued, would put Germany under great disadvantage, because it would mean that, while the Germans had only a small professional army, every Frenchman would be a trained soldier. To a certain extent this is true; but the existence of this military *quid pro quo* has been flatly denied in London, and, even had no denial been forthcoming, Germany stands to gain more by a general reduction of armaments such as this agreement should facilitate than any other country. While Great Britain and France have different views on the limitation of armies and navies the League's Preparatory Commission of the Disarmament Conference will make no progress, and Germany will continue to suffer from an inferiority complex due to the treaty's limitation

of her military strength and to the continued occupation of the Rhineland.

This Rhineland question has loomed large in German eyes during the last few weeks, and it had been generally anticipated—though I do not quite know why, when it is so much easier to arrange quiet talks in Geneva than in Paris—that Herr Stresemann would use the occasion of the signature of the Kellogg Pact to talk over evacuation with M. Briand. It is true that the French Socialists, at the meeting of the Labour and Social International in Brussels early in August, showed no enthusiasm for the continued occupation of German territory, but in other respects the moment does not seem opportune for a discussion of this extremely delicate question. France has been much too much alarmed by the demonstrations in favour of the union between Germany and Austria which marked the Schubert centenary celebrations in Vienna to be willing to make concessions to meet the German point of view. Herr Loebe, the President of the German Reichstag and the strongest supporter of the Austro-German *Anschluss*, managed to drag even so astute a politician as Monsignor Seipel, the Austrian Chancellor, into political demonstrations which, from the German point of view, seemed to be unnecessary, since economically and administratively the *Anschluss* may already be said to exist and political union is less important and less urgent. Schubert would have been somewhat astonished had he been one of the 500,000 people who watched the procession of 150,000 singers from all parts of Germany and of German-speaking countries. With that thoroughness which characterises the German mind, all sorts of statistics have been prepared to show how important this demonstration was, and Austrian papers commented with some bitterness on the facts that the organisers urged the restaurant proprietors of the Prater to order many thousand meals more than were actually required, that 1,200,000 more litres of beer were consumed in Vienna during the four days of the festival than is customary, and that the sale of sausages increased to the extent of 100,000 a day. Such a demonstration doubtless had its lighter side, but the alarm it caused in France and the Little Entente countries has not increased cordiality between France and Germany.

On the other hand, relations between France and Italy are now more friendly than they have been for many months past, as a result of the success of the Tangier Conference. When Catherine of Braganza married King Charles II. in 1661, Tangier was part of her dowry, and Samuel Pepys was sent out there to report on it. He noted in his Diary that he was 'infinitely bit' by some insect which has either become extinct or, more probably, has since changed its name, but he was vastly impressed by the

possibilities of development, and declared that Tangier was likely to become 'the most considerable place the King of England hath in the world.' Nevertheless the English left it in 1684, and Sir Austen Chamberlain is entitled to look upon this new settlement, which makes it not more British but more international than it was before, with considerable gratification. The Convention drawn up by the British, French and Spanish Governments in 1923 had led to friction between Spain and France on the one hand, and Italy and France on the other, and the geographical position of the city makes it very important from the British point of view that it should be governed by the principal Mediterranean Powers without rivalry and jealousy. Now that Italy has been given her fair share in the administration, several minor causes of friction between Paris and Rome should disappear. It is perhaps significant that during the recent Yugoslav crisis Signor Mussolini has shown a patience which some of his speeches would not lead one to anticipate. The Italo-Yugoslav treaty of friendship should have been renewed on July 27, but by that date the Nettuno Conventions to regularise the situation of Italians along the Dalmatian coast had not been ratified, and in the absence of this ratification Italy might quite well have made herself unpleasant. Instead she has abstained from all action or comment while Serbs and Croats were busily endangering the future prosperity of Yugoslavia.

The situation in that country is one of tragic misunderstanding, due only in part to the unusual activity of political assassins. Croat resentment against a Government which appeared to favour the Serbs at the expense of the other elements in the Triune Kingdom, which concentrated all administration in Belgrade, and which taxed the Croats more heavily than the Serbs, had become intense even before it was announced that the Nettuno Conventions, signed three years ago, were at last to be ratified, so that Belgrade might the more easily obtain a foreign loan. The Croats are strongly represented in just those parts of the country covered by the Conventions, and Stephen Raditch would not have been Stephen Raditch had he missed this opportunity of creating difficulties for the Vukitchevitch Government. But, despite his obstructionist tactics, there were still possibilities of compromise until on June 20 a Montenegrin deputy in close touch with Government parties shot Raditch and other Croat leaders in the Skupstina.

There is no need to recall here the details of the rather sordid dispute which followed between Belgrade and Zagreb. Had the Croats not demanded new general elections, had the Vukitchevitch Government shown its appreciation of the seriousness of the incidents by resigning immediately, had the Croat deputies not

antagonised the Serbs by holding a meeting in the Zabor, which had been their local Parliament before the break-up of the Austro-Hungarian Empire, had a Serbian editor not been murdered in Zagreb—had, in fact, things happened quite differently—Raditch would not have gone so far as to demand, a day or two before his death on August 8, complete autonomy for Croatia, which would be bound to Serbia only by a common Crown.

If words were deeds, there would be civil war in Yugoslavia. But fortunately there is always a lot of what is vulgarly but graphically known as ' hot air ' in Balkan politics, and the Croats have, in Dr. Trumbitch (who played almost as important a part as Dr. Paschitch himself at the Peace Conference), a leader with a far greater sense of responsibility than M. Raditch ever possessed, and with far more constancy than M. Pribitchevitch, the other leader of the Croat movement, has shown in the past. Even so, it will be difficult for Serbs and Croats to remember that, despite their differing outlooks, due to the domination of Turkey on the one hand and of Austria-Hungary on the other, they come from the same stock and can only stand if they are united.

Political crises are apt to cloud our horizon almost as rapidly as thunder-clouds on a sultry August afternoon. But at the moment one feels the three danger spots in the world are the Balkans, and particularly Albania; Eastern Europe, and particularly Lithuania; and China, and particularly Manchuria. Of Lithuania little need here be said, since negotiations between Poland and Lithuania will be taking place in Geneva when this article appears, and although the several attempts at negotiation since the League Council urged the two countries to resume relations last December achieved less than nothing, the imminence of a full examination of the question by the Council may persuade M. Valdemaras to abandon a policy of negation which appears to be as dangerous to his own country as it is to the rest of Europe. As for China, both pessimists and optimists still find plenty to confirm them in their pessimism or optimism. Being personally an optimist, at any rate where territory so distant from my own hearth and home is concerned, I find comfort in the facts that the British and Chinese Nationalist Governments have settled their dispute over the incidents in Nanking a year and a half ago, that Chiang Kai-shek, a moderate and reasonable man, appears to be now the most powerful man in China, and that the tension between Japan and China, due to the Nationalist denunciation of the Sino-Japanese Treaty, and to the Japanese effort to prevent Chang Hsueh-liang in Manchuria from uniting with the rest of China, is not quite so dangerous as it might be. But having said this, I should go on to admit that I can well understand the pessimist's point of view. Feng Yu-hsiang now has great influence through-

out Northern China, and he is a danger to the Nationalist cause, because, besides being a good general, his reactions to events are as unexpected as were those of M. Stephen Raditch. The enthusiasm of the different Tuchuns for the Nationalist cause supports the transference of the capital from Peking to Nanking, but it disappears with singular rapidity when there is any question of supplying money to the Nanking Government, and the problem of disbanding a million and a half of the two million Chinese soldiers is one which might terrify any Government, let alone a Government with no funds and no experience.

Faced by this uncertain situation, foreign Powers have not acted with that unity to which they pledged themselves at the Washington Conference in 1922. Japan, in her natural desire to protect her immense interests in Manchuria, her resentment at the abrogation of her treaty, and her fear lest Russia might again get control of the Nationalist Government, and, through it, of Manchuria, stated with a bluntness which alarmed not only the Chinese, but even people in this country and the United States, that she would intervene to prevent disturbances north of the Great Wall. The United States, on the other hand, without warning any other foreign Power, suddenly went ahead and signed a brief treaty agreeing immediately to abolish customs restrictions in China, but protecting their own interests by a most-favoured-nation clause. The British Government has taken the middle way, and has dealt with the Chinese as a famous cardinal once advised the writer to deal with the Italians—'Offer them the honey-pot, but let them see the vinegar bottle in your pocket.'

Whitehall and Washington have done what they can to strengthen the more moderate Nationalists. They and other Foreign Offices must now wait upon events. But while they are waiting they might with advantage make one more joint effort to agree upon a policy which, while protecting the legitimate interests of their nationals, will show sympathy for the efforts of those who hope to make of China a great republic, and who think less of the interests of money-grabbing generals than of the 400,000,000 honest and hard-working Chinese peasants.

VERNON BARTLETT.

THE PROBLEM OF OUR VOLUNTARY HOSPITALS.

THE future of our voluntary hospitals is a matter of vital interest at the present time, and it must be looked upon from three points of view:

(1) How far will our present voluntary hospitals fit in with any reorganised State medical service?

(2) How far are the voluntary hospitals prepared to meet what has become a crying need—the provision of accommodation and treatment for what may be described as 'middle class patients'?

(3) Are the voluntary hospitals to continue to be the centres at which the progress of scientific research is to remain unhampered for improvement in methods of treatment and the education of medical men and nurses?

It has long been known that the Ministry of Health of the present Government contemplates a reorganisation of the Poor Law administration, especially as applied to medical relief. There is very little doubt that the management of the various hospitals at present under the care of the guardians will be transferred to one central body, probably the London County Council. It is hoped that thereby the stigma of pauperism, in so far as it may exist at the present time, will be removed from the various borough infirmaries, a stigma which is totally unjustifiable in view of the admirable buildings which have been erected in some of our metropolitan districts, and of the great progress of efficiency in many.

A series of questions has been circulated by the Ministry of Health amongst the various voluntary hospitals of the country with a view to finding out how far the voluntary hospitals feel that they can fit in with any centralised system of medical relief. Something has already been done in one or two of our provincial towns toward solving this particular question, and in some—such, for instance, as Bradford—there is in existence a working agreement between the voluntary hospitals and the municipal hospitals; but the problem in London is one which differs essentially from that which is indicated in this allusion to provincial cities. In the

metropolitan area there are over 100 hospitals which make application to and receive relief from King Edward's Hospital Fund for London. The objects for which they were founded and the work which they are doing differ so materially that the same solution cannot be applied to all. We have the large general hospital with a medical school attached; the general hospital with no medical school; the smaller cottage hospital, and the special hospital, the latter dealing only with one particular class of case, especially women and children. These hospitals are by no means evenly distributed in proportion to the population. Many of them have existed for years in a district where the population has tended to fall, while thickly populated districts have grown up where little or no hospital accommodation has been provided. If voluntary hospitals are provided the question of staffing them arises. The general practitioner of the district is as a rule overworked, and it is not easy for consulting physicians and surgeons to give a great deal of their time to a hospital which lies some distance from their own consulting rooms. On the other hand, there are in many of these districts important municipal hospitals.

The managers of the voluntary hospitals have met to discuss the following points put forward by the Ministry of Health:

(1) Having regard to the nature of the hospital accommodation available in the area, both in voluntary and public hospitals, are there any categories of cases which should, so far as practicable, be allocated to one type of hospital or the other?

(2) Is it possible, after taking stock of local needs, to agree on any lines of demarcation between the province of the voluntary and that of the public hospitals in the area?

(3) Assuming that some understanding is reached as to the line of demarcation between the voluntary and public hospitals in a given area, to what extent would this modify schemes of enlargement in hand or in contemplation?

(4) If there is a shortage of voluntary beds, in what respect is the shortage most serious?—*e.g.*, is it a shortage of general surgical or medical, gynæcological, maternity or orthopædic beds? Is there vacant accommodation in public hospitals suitable, or capable of being adapted, for the type of case for which accommodation is specially needed?

(5) Could not some 'clearing-house' arrangement be established by agreement between the voluntary authorities and the local authorities (including the guardians) which would ensure a better distribution of patients and more

rapid admission of cases requiring institutional treatment?

(6) To what extent, and under what conditions, could the medical staffs of the voluntary hospitals undertake responsibility for cases, or for a definite number of beds, in public hospitals, so that the patient may be secured of the special type of experience required, whether medical or surgical, without regard to whether the bed which he occupies is under voluntary or public management?

They have shown complete readiness to discuss these points with those who are responsible for the municipal hospitals, but at the present moment there is no one authority representing the municipal hospitals.

The question naturally arises: What form of co-operation or co-ordination should there be between the guardians and the voluntary hospitals? It is the legal duty of the guardians to undertake the care of the sick and indigent within their boundary. On the other hand, the voluntary hospitals may accept and retain for treatment those cases which they consider can be benefited by admission to the wards. We are speaking only of in-patients, because, while the voluntary hospitals are remarkable for the size and general efficiency of their out-patient departments, the guardians do not as a rule undertake the care of out-patients within their hospital buildings.

The hospitals which the guardians administer often lie on the very outskirts of the borough, and if there is to be any useful co-operation between the voluntary hospital and the municipal hospital such co-operation will be most useful when the hospitals are fairly close to one another. Take, as an example, Guy's Hospital. Here we have a voluntary hospital standing on the borders of Southwark and Bermondsey. Bermondsey municipal hospital is quite close to Guy's. On the other hand, the Southwark municipal hospital is on the south of Champion Hill, at least three miles away from Guy's, and such is the state of the law at the present time that, as Guy's is within the Southwark boundary, and has to transfer an incurable or chronic case, then it must not deal with the Bermondsey Guardians unless it is a Bermondsey case, but must deal with the Southwark Guardians.

Our voluntary hospitals have gained a reputation which attracts patients to their doors, and as a rule those who are free to seek application for assistance apply in the first instance to the voluntary hospital, in which they have the most confidence. This confidence arises from many causes: either they have been treated themselves on a former occasion, or members of their family have been treated, or they have friends whom they have perhaps visited in the hospital.

The present Minister of Health, in speaking of the question of Poor Law reform, has asserted emphatically that it is not his intention to cripple the work of or interfere in any way with our voluntary hospitals, and the very able report of Lord Cave's Committee emphasised the importance of retaining our voluntary system. Both from the points of view of efficient treatment of patients and economy, any attempt to deal with the whole question of hospital treatment by a universal system of municipal organisation would inevitably involve the country in enormous expenditure.

It is generally admitted that the management of our voluntary hospitals is efficient. There is a humanity about them, a self-sacrifice on the part of the workers, medical, nursing and lay, which arises from the spirit which prompted the foundation of these hospitals. Before there was any Poor Law administration the monks of old founded hospices for the care of the sick poor. These religious foundations were swept away in the days of Henry VIII., but two of our largest hospitals—St. Bartholomew's and St. Thomas's—were restored to the citizens of London on a petition of the Lord Mayor, supported by the Bishop of London. These two hospitals are the prototype of our modern voluntary hospital. During the early part of the eighteenth century a large proportion of our existing hospitals were founded and organised on similar lines to these two great institutions. The management is in the hands of the governors, who, as a rule, have provided, or represent those who have provided, the funds by which these hospitals are maintained. The treatment of the patients is in the hands of a voluntary staff, who co-operate whole-heartedly with the governors, and they form a voluntary service by their skill and care, as do the governors by their gifts in support of the institution. For various reasons, these hospitals attract the very best men of the profession. The hospitals with medical schools attached naturally fill their vacancies as they may occur with the best of their own students, but should no such man be available at the moment a vacancy occurs, then we find that men who have already gained distinction—though they may have been educated in other medical schools—are elected on the staff, as physicians or surgeons, or as specialists in particular diseases for which they have studied. The advantages of being able to study disease, with the assistance of scientists in charge of the various laboratories, in the teaching of the future general practitioners are quite sufficient to attract the very best men, who by their association with the hospital establish a reputation which is of incalculable importance to them in their profession. In each of our large hospitals with medical schools there are resident medical officers to represent the visiting consultants and keep

them *au fait* with the condition of the patients under their charge. Those who are admitted into our voluntary hospitals enjoy the advantages of being under the ablest members of the medical profession. As hospital patients, their disease is studied by the senior clerks and dressers under the supervision of the house physician or house surgeon. Thus there is every incentive for both the consultant and the assistant to probe the nature of disease to the very core, for on the success of the treatment depends largely the reputation of the teacher amongst his students.

Question 6 of the points put forward by the Ministry of Health raises a most difficult problem. Would the consultants of the various voluntary hospitals be prepared to give the voluntary service which they are now rendering to their own hospitals to any municipal hospital to which they may be called? They would hardly reap from their association with these hospitals the same benefits which they already derive from their own hospitals with medical schools attached. It would therefore be necessary that those who give their time should be paid for their service; and why not? Possibly a solution of this difficulty will be found in the junior men. These men are fully qualified, have already gained experience in their own hospital, and are skilled both in diagnosing and in operating. If called to the municipal hospitals they should be paid for the service rendered. Once a consultant has gained a reputation, he is a man of assured financial position; but the position of the junior consultant who has so distinguished himself as to be justified in hoping for election on the staff of one of our great teaching hospitals is very different. He has not yet secured the confidence of the public. He has not yet had an opportunity of making his work known, and he needs some such position as might be offered in the municipal hospitals to support himself in his earliest years of consulting practice. Each of these younger men is associated with one or other of the consultants in his own teaching hospital, and no doubt means could be devised for securing the opinion of the more experienced consultant in emergency. Further, is it necessary that there should be any such complete equipment in the municipal hospital as has been provided in most of our large general hospitals? If such work can be referred to the large general hospital, then much public money might be saved by co-ordinating this work. It must also be remembered that the number of highly trained pathologists is extremely limited, and it seems to be desirable that some such plan of co-ordination as we have spoken of should be arranged so as to secure the services of the more distinguished pathologists for the general community; but here again the payment for these services must be met out of the funds of the municipal hospital.

It was only at a comparatively recent date that there was any attempt to organise nursing on efficient lines, on which the comfort and well-being of the patient so much depends. This was after the Crimean War, when Florence Nightingale so nobly devoted the large sum of money subscribed by the nation to the foundation of the Nightingale Training School at the old St. Thomas's Hospital in Southwark. Nowadays it is the efficiency of the nursing staff which contributes so largely to the popularity of our hospitals. Nursing makes very heavy demands upon those women who adopt it as their profession. Not only must they be endowed with a full measure of tact and sympathy, but they must be prepared to study nursing as a learned profession if they are to be of real assistance to the medical men in the treatment of their cases. A candidate entering one of our large modern training schools is required to go through a preliminary training of eight or nine weeks' instruction in elementary anatomy and physiology, in sick cookery, in bandaging, bed-making, and many other details. Having passed through this training successfully, she is admitted as a probationer, and works under the direction of her seniors in attendance on the patients, continuing her studies meanwhile. If at the end of a year's training she is efficient, she undertakes more responsibility in the care of patients, but she continues her studies, and attends lectures by the physicians and surgeons, and her work is constantly checked by the supervision of a sister tutor, who herself takes the necessary classes to prepare nurses for the Final State Examination on completion of their three years' training. Both physicians and surgeons recognise the importance of giving every assistance in their power to foster the highest education of the nurses and thus enable them to render efficient assistance in the treatment of the patients by modern scientific methods.

It is to the elasticity in management and hearty co-operation of governors and medical staff that so much progress in the knowledge and practice of medicine and surgery is due. It is hoped that whatever schemes are developed for linking up the work of the voluntary hospitals with the municipal hospitals will be based on the fundamental principle of that freedom of action which is characteristic of the voluntary hospitals at the present time, and that the spirit of progress will not in any way be restrained.

The voluntary hospitals were founded, as were the municipal hospitals, for the treatment of the sick poor and those who were totally unable to provide for themselves in time of sickness. Social progress has generally improved the conditions of the working classes, and has to a large extent minimised the necessity for hospitals carrying out this object of their existence. The

introduction of the Insurance Act has ensured provision for ordinary cases of sickness. It may not perhaps answer to the somewhat boastful assurance that was made on the introduction of the Act that when the doctor comes in at the door sickness flies out at the window, but it has at least secured funds which, if properly administered, would largely meet the cost of providing ordinary medical treatment for that section of the community which comes under the Insurance Acts; but no provision was made for hospital treatment for the insured person—an extraordinary omission! Some of the leading approved societies have recognised this fact, but the only funds which they have available for helping the hospitals for the treatment of insured persons are derived from accumulated surpluses as discovered after each quinquennial valuation. There still remains, therefore, on the hospital the greater burden of the cost of this treatment.

Progress in medical and surgical knowledge during the last forty years has been very marked. The first foundation of the great progress in surgery was indicated some thirty years ago by the building of new and efficient operating theatres in which the principles of aseptic surgery could be practised. The first step towards this progress had been the introduction of antiseptic surgery, but it was soon realised that the use of antiseptics to neutralise any infection was, as a principle, far behind the advantages of asepsis, and now aseptic surgery is the ruling principle of our hospitals. This enables our surgeons to perform operations which less than half a century ago would have been regarded as little short of miraculous. About this time it appeared as though medicine had reached almost the highest stage of perfection to which it was likely to attain. We had physicians of world-wide renown attached to our leading hospitals whose learning was based on a thorough training and development of powers of observation and deduction, by which they detected with almost uncanny precision by outward signs the ailments of the patients under their charge. Then came, by slow stages, the introduction of bacteriology, and a furore was caused throughout the world by Koch's discovery of the tubercle bacillus. This was quickly followed by other discoveries, and the necessity for the establishment of bacteriological laboratories was recognised, and all our larger general hospitals, with halting steps, instituted laboratories which are so marked a feature of their work at the present time. The advantages of the study of bacteriology were convincingly proved by the invaluable work of Pasteur, and in our own country Sir Almroth Wright and others; and while we had our soldiers dying like flies from typhoid and kindred diseases in the South African War, in the late war the skill of our scientists reduced the

ravages of sickness amongst our troops, serving under infinitely worse conditions, to an almost negligible quantity.

Not long after the South African War the subject of biochemistry began to be recognised, and just before the Great War began some of our hospitals had established biochemical laboratories. Thus we had the importance of pathology, both bacteriological and chemical, fully recognised. Nowadays the modern hospital, equipped for the education of the future general practitioners of the country, is dependent largely, perhaps even too much, on instruction in these laboratories, for there is a fear that this dependence on accurate laboratory test may tend to check the development of those powers of observation and deduction characteristic of our physicians of the past. However, it is felt that this is a matter which will be rectified by experience.

In surgery we had a somewhat similar experience on the introduction of X-rays. The hospital student, who in time becomes a resident medical officer, nowadays depends almost entirely on X-rays for the diagnosis of fractures, and that skill which was characteristic of the surgeons of the past in detecting the nature of fractures by crepitus has practically disappeared. On the other hand, we have X-rays specialists proving their great value in the diagnosis of various conditions of internal disease. The surgeons receive the greatest possible assistance from the X-rays specialists in the location of gastric and duodenal ulcer, physicians are assisted in diagnosing the condition of the lungs, and bony formations are clearly indicated. These are instances of what can be achieved by this co-operation, and a case may be quoted of a tumour of the spinal cord being diagnosed by the use of lipiodol and its position exactly determined. Its removal by the surgeon resulted in the complete recovery of the patient, who before operation had been suffering from paralysis of the lower part of the body. Such, then, is the practice of our voluntary hospitals. A poor patient is admitted to the hospital and has the advantage of all these aids to knowledge which comes from the existence of efficiently staffed and fully equipped laboratories, X-rays departments, etc. The middle class person—*i.e.*, one perhaps slightly better endowed with the world's goods—is unprovided for in time of sickness. He may be able to pay a consultant's fee, but he cannot afford the many laboratory tests which the consultant may consider necessary. Still less can he afford the full fee of a surgeon and the heavy cost of the private nursing home. To attempt treatment in his own home is equally hopeless, for the cost of highly trained and efficient nursing is quite beyond the means of the middle class. It was difficult enough in the old days to provide for the nursing of a case at home when there was plenty of room in the house and efficient help,

but how are such cases to be dealt with in modern flat life? In the case of serious illness in a flat the first question is, Where can accommodation be found? There are a number of nursing homes, many of them efficient, but which cannot be expected to meet the requirements of modern hospital organisation. Many of these homes are run by highly efficient women, who have received thorough hospital training, but the cost of running such homes must necessarily be very high, and the fees charged are as a rule by no means disproportionate to the expenditure for upkeep. A reasonable fee for accommodation must be fixed to attract the patient, but when under treatment it is found that the extras are crippling to moderate means. It is the fault of the system, not of those who are attempting to meet a public need, and the work of those who are running the private nursing home must suffer, however efficient they may be as nurses, if there is financial anxiety to make both ends meet.

There is therefore a call on the hospitals to answer the question, Who are the sick poor? We can perhaps answer this best by saying that the sick poor are those who can make a contribution (of varying amount) towards the cost of their maintenance and perhaps of treatment in a voluntary hospital. Much progress to meet these cases has been made in the voluntary hospitals by the establishment of a social service department staffed by trained ladies, known as a rule as 'lady almoners.' They have many difficult problems to solve. They must protect the interests of the medical men who are consulting physicians or surgeons of the hospital. It is practically a universal rule that these men do not take any fee at all for their service to patients admitted to the ordinary wards of the hospital. At St. Thomas's Hospital, which was one of the first, if not the first, to recognise this problem, they opened, soon after the completion of the present building, two wards for the reception of cases which could pay three guineas per week and a reduced consultant's fee. This system has gradually grown and improved, until in 1903 the present St. Thomas's Home, attached to the hospital, was built. Here are private apartments completely separate one from the other. The majority have no door. The entrance is efficiently covered by a heavy curtain, which may be left drawn or open, at the convenience of the patient, and the cost of nursing is considerably reduced. The fee charged now is only six guineas per week. This leaves no profit. On the other hand, the consulting physicians and surgeons who have the cases under their charge reduce their ordinary fees to meet the patients' circumstances as put before them by the medical practitioners, who generally apply for admission on the patient's behalf. It is quite realised that this does not meet all that is required, and the

governors at present contemplate the erection of a building on a site which has been acquired for the purpose, where they will have a large nursing home for paying patients, at fees varying from four to twenty guineas per week, according to the accommodation afforded. If funds can be provided for this purpose, then the patients can be admitted in larger numbers than is possible at the present time. All these patients will derive the full advantage of modern hospital equipment, embracing, as we have already indicated, research laboratories and X-rays departments for diagnosis and treatment, as well as massage and electrotherapy, and the co-operation of specialists in every branch of medical and surgical knowledge. The necessity for this development is fully realised by the governors of the hospital. It rests entirely with the public to support the governors by providing the funds which are required to secure this boon for the middle class, a boon which any one of us may at any time need.

The general rule at the present time is that patients are not admitted to these homes attached to our hospitals who can afford the higher charges of the private nursing home; but if a wider scope is given and provision is made for all classes of cases, then, after investigation into the circumstances, a fee is fixed which the patient can afford both for the home and for the consultant, the surplus from the richer patients will contribute towards the maintenance of the home for the admission of patients less fortunate than themselves, while the consultants would benefit largely by this arrangement, in so far as they would receive their usual fees for many of the cases, and they would be prepared to treat the poorer patient, as they do now, for reduced fees, having more recompense for the sacrifices which they at the present time so willingly make.

With regard to patients admitted into the general wards, it is becoming more and more fully recognised that all those who can should make a contribution, in proportion to their means, towards the cost of their maintenance in the hospital. In a large general hospital where the cost is increased by the advantages attendant on the upkeep of laboratories, etc., four guineas per week barely covers the cost of maintenance, and patients who cannot afford to go into the nursing home attached to the general hospital should be prepared to make every effort to contribute as large a proportion of this cost as possible. Even in the old Poor Law infirmaries all who were admitted were assessed by the relieving officer to pay for the cost of their treatment according to their means, only the actually indigent being relieved from this obligation.

The hospitals must still depend largely upon the contributions of those who are prepared to send annual subscriptions for the

help of those less fortunate than themselves, and so to provide efficient treatment in time of sickness or accident. But there is a still greater reason for those who can afford to do so to contribute to the support of these general hospitals. As has already been indicated in this article, the voluntary hospitals have been in the past, and still are, the centres of scientific research. Many of our richest citizens have generously endowed research laboratories, realising how very important research has been in discovering the means of diagnosis and the best methods of treatment of the various diseases. Less than a decade ago the importance of the action of the endocrine glands was practically ignored; now much research has not only discovered methods of treatment for the prevention of disease, but the coming generation of medical practitioners is being educated to a higher standard of efficiency for the prevention of disease, and so for the general good of our whole social life.

G. Q. ROBERTS.

THE NEW ARCHITECTURE

NEARLY every European city of any importance contains at least one example of what is popularly known as ' the new architecture.' It is architecture which in some subtle way seems to be different from ordinary building. It is at once distinguishable, even to the comparatively uninitiated. It appears as something novel, and sometimes as something startling, and in a variety of forms and materials. But in every case this ' new architecture ' is characterised by what appears to be a definite break with the traditional expression of building in some accepted style. It appears to bear a hall-mark of its own, difficult to define in positive terms. One can only note at first glance that there are few obvious affinities with the forms of building with which most people are familiar—Greek, Renaissance, or Gothic—and that in the place of these familiar forms are new ones which produce an entirely different effect.

Buildings having a character of marked originality have appeared in all periods of architectural history. A building such as Sir John Soane's Bank of England, for example, is a work of architecture which bears the peculiar and personal stamp of one man ; and in other buildings by this same architect can be detected the forms and mannerisms which Soane developed and which reveal his work so readily. But the work of a man like Soane only typifies the expression in architecture of one man's personality—including, of course, the influences which helped to mould that personality. Unless the influence of this work was widespread, and the principles upon which it is based were studied and developed, there would not result the creation of a style. And, in order to make such development a probability, these underlying principles must be marked by a real significance. If this were the case there might result from such work the creation of an architectural movement.

The work of Soane did not create a movement, though it has influenced modern architecture. There were no vital principles behind his designs which could be considered as essentially different from those already prevailing in the architecture of his period, and in consequence his designs revealed no radical

departures. In certain secondary matters affecting building Soane did, however, apply fresh principles, and these have survived for further development to-day.

This passing reference to Sir John Soane has a value in explaining the new architecture of to-day. For while the contribution of Soane to architecture consisted in hastening, and to a limited extent modifying, the ordinary course of architectural evolution, the architects of the new movement of to-day appear to be applying to evolution such a process of 'speeding-up' as to make it difficult to follow the continuity between what has gone before and what is being now attempted.

The most important difference between these two parallels lies in the fact that whereas the influence of an architect like Soane results from the independent and comparatively isolated expression of one man's views and individuality, in support of the new architecture of to-day there is an almost world-wide movement. That is to say, there appears to exist in countries widely separated by distance, and with varying architectural traditions, a desire to express in building ideals which are similar in essence, although translated into form in divergent manners. It is this fact which gives to the new architecture its significance. It would be possible to regard any one instance of radical departure from the accepted forms of tradition as merely an individual art expression in terms of building, or perhaps as an isolated gesture of protest or revolt against a general convention. But where, as is the case to-day, one sees evidence of a movement in one direction, supported in different countries by people of widely different temperament, one can only assume the presence of some force which is either important in itself or for which, owing to a certain set of circumstances, the field of action happens to be particularly propitious.

In the case of the new architecture, it would appear that both of these conditions have been realised; the forces resulting in this fresh architectural expression have been sufficiently vital to grow in strength and accumulate, while at the same time the circumstances of the war and the social upheavals which it involved have created new conditions which in architecture have been particularly favourable to radical departures from what has hitherto been expected and accepted.

The particular conditions resulting from the war, which have hastened the development of a new architectural expression, are economic. The ground for new developments was being prepared some time before the war; the seed was already sown. But post-war conditions have assisted their growth to an extraordinary degree, due to the fact that the tendencies of pre-war modern architecture were of such a type that they could shape themselves into a suitable and logical expression for post-war building.

The modern movement in pre-war architecture was characterised, amongst other things, by a return towards simplicity of form and decoration. This simplicity was not imposed by economic necessity. It resulted principally from the adoption of a certain standpoint in æsthetics, to understand which it is necessary to recall the movements which have taken place in painting and sculpture and music, and last, but not least, fashions in dress and decoration generally.

For a long period of years—since the end of the eighteenth century, in fact—there has been little real development in architecture, though in other arts there was never complete stagnation in creative activity. The elegant traditions of the eighteenth century were expressed in architecture throughout Europe, but their real perfection of type appeared to mark a period of culmination. And, as nearly always happens with a period of culmination, there followed a period of exhaustion. The early half of the nineteenth century was on the whole marked by a dearth of the creative spirit, largely owing perhaps to the absence of any marked stimulus to creation ; and, as usual in such cases, there resulted a gradual debasement, characterised in architecture by plagiarism, the continuation of style through imitation of external features, and an increasing lack of observance of the fundamental principles upon which the style was originally based.

The industrial era of the nineteenth century did not assist matters very much as far as architecture was concerned, at least in its early stages. During the era of machine-produced prosperity architecture, as has nearly always happened, failed to respond immediately to the opportunities which the conditions of the period presented. Little creative work was done, and a series of revivals, first Gothic and then Greek, preoccupied designers. In these revivals it was attempted to adapt certain architectural forms, which in their origin were created to meet the practical and spiritual needs of other ages, to an entirely different set of conditions. The adaptation might perhaps have been successfully accomplished had there been enough in common between the building problems of the nineteenth century and those of the periods from which the inspiration was drawn. In certain cases where these conditions were realised, such as in church building, where the modern and mediæval building programme presented few essential points of divergence, a measure of architectural success resulted ; but the real disasters arose in the attempts to force the expression of Greek or mediæval architecture on to buildings which logically demanded a totally different treatment. As long, in fact, as style and function went hand in hand, a revival or a rendition of period style was possible. But when, as very often happened, the externals of style became a

definite stumbling-block to suitability for purpose, there resulted buildings which, from the standpoint of architectural merit, were completely negligible.

The preoccupation with style, or rather the externals of style, prevented the architects of the earlier half of the nineteenth century from taking full advantage of the opportunities which an industrial age was beginning to offer in plenty. The wholesale introduction of machinery, and the improvement in processes of manufacture, made possible a great advance in the science of building construction. The possibilities of iron and steel as the materials for the framework of buildings began to be realised, and resulted in the erection of several structures presenting great scope for an architectural treatment. The Crystal Palace was a case in point, and later the Galeries des Machines in Paris. These were actually engineering structures, their architectural significance being limited in the main to a powerful and direct expression of material and form. On the one hand were buildings of this type, products of the age, and on the other essays in modern architecture couched in the language of the past; between these two extremes the nineteenth century architects provided very few links indeed.

There were, however, a few examples. The library of Sainte Geneviève in Paris, by Labrouste, is a building in which advantage was taken of modern methods of construction, while at the same time its architectural treatment was based more upon a useful expression of the function of a library building than upon adherence to style for its own sake. This particular building therefore—and there are, of course, other examples—constituted an example of architectural progress. It was, in fact, for its day, an accomplished essay in modern architecture.

The architects of buildings of that type were the forerunners, though in a gentle manner, of the designers who to-day are working in the so-called new style, for their work was based upon a definite and very important principle, namely, that in the design of buildings the first consideration should be the fulfilment of the function for which the building is destined, and that the external treatment should derive from this expression of function. This is a reversal of a method of design which had previously held sway amongst a majority of nineteenth-century architects, in whose work was evidenced primarily a desire to cultivate style for its own sake, and, if necessary, sacrifice the planning and convenience of buildings to those requirements of proportion and ordered arrangement which adherence to the letter of style so often dictated.

The origin of the new architecture can therefore be traced in the main to a growing divergence of ideals between two schools of

designers—those preoccupied with the maintenance of the tradition of architectural styles as evolved and handed down through the principal periods of architectural development and those who felt that no consideration of traditional design should weigh where an expression in terms of historical architecture resulted in hindrance to the building programme.

In favour of the standpoint of the traditionalist school were many arguments to be adduced. The maintenance of historic styles was considered to ensure an element of harmony, a safeguard to civic design, the avoidance of architectural contrasts so brusque as to constitute a breach of architectural manners. In the same category was the very laudable desire to conserve the character not only of cities but of small localities, so many of which, in the days before the establishment of easy communications, had developed an architectural vernacular having an artistic and also a sentimental value. All this risked suppression in the new movement which tended towards a kind of architectural cosmopolitanism; for, since architectural design was to express the requirements of building, and these requirements were tending, according to type, to become more nationally (and even internationally) uniform, the characteristics of local individuality would disappear, and with them many of the charms and associations which linked architecture with humanism.

On the side of the new school, the rationalists, were arguments potent in another direction. Science was making giant strides, conditions of life were changing—the type of building suitable to an age when conveniences were not required, and probably not even thought of, was no longer appropriate. Architectural design was too cramped and rigid. Where large windows were necessary for the admission of light the adoption of a classic system of proportion would demand a wide spacing of comparatively narrow bays, or the introduction of a heavy and obstructive order of Greek or Roman columns. Window-sills, required at varying heights for internal convenience, must needs conform externally to an exact alignment, and the lighting of upper storeys be subservient to the unlit depth necessitated by a solid entablature. Plans must conform to the demands of formal symmetry, or else, as was so often the case with the Gothic Revival, meander in a cramped and picturesque disorder, their spaces dimly lit through the meshes of an interfering tracery.

These were a few of the practical restrictions which adherence to style imposed. But on the æsthetic side were further arguments in favour of changes in architectural expression.

In the hands of sincere and competent designers, the study of the historic styles resulted in a gradual evolution in which the spirit of style was rightly regarded as more important than the

letter. Elements of traditional architecture were not employed merely for the sake of convenience, as ready-made features, but because they were appropriate. On the other hand, there were—as there are to-day—plenty of practitioners with a very limited knowledge of the significance of style, who saw in the perfection of old work only an opportunity for an easy pilfering of architectural detail, and a chance of readily achieving in their buildings a certain superficial suggestion of cultured design through the channel of reminiscence. This proceeding involved, as the gulf between the ancient and modern programme of building widened, a gradual degradation of the elements which at first were faithfully copied from originals, and which finally descended to becoming copies of the copy. The worst evils of period reproduction began, in fact, to be felt in architecture. Creative work became increasingly rare, and imitations were further and further removed from the purity of their originals, so much so that at the close of the nineteenth century the standard of architectural design had sunk to a sad level, and architecture, so often described as the mistress art, was worse served by her exponents than any of her lesser sisters.

There were, however, reactions against this degradation, and they were brought about by the influence of isolated individuals who were able, by their work and writings, to revive an interest in the principles which underlie good work.

Chief amongst these, in this country, were William Morris and a small band of his contemporaries, leaders in the movement of the Arts and Crafts. Morris and his followers realised the importance of suitability to purpose, and considered that it was possible to imbue the simplest objects with an element of beauty. But always the conception must be logical, and the construction honest.

It is in the main to the influence of Morris and his friends that can be traced the beginnings of the new movement in architecture as we see it to-day. Not so much in what was done by Morris, as in what he thought. He established, and effectively preached, a point of view. And if, in this country to-day, the direct influence of Morris is almost negligible, yet it is nevertheless true that the seed which he sowed in England has borne fruit all over the Continent, and in the United States as well, where Eastlake, with his book of furniture designs, was pursuing the Arts and Crafts idea with an effectiveness which must not be gauged by the often doubtful quality of his designs.

The influence of Morris, assisted by the circulation of *The Studio*, spread rapidly to Central Europe. Horta and Van de Velde in Belgium and the Viennese architect Otto Wagner were familiar with the directives of the Arts and Crafts movement.

The stupidity of a blind and slavish policy of reproduction applied to architectural design became, to men such as these, increasingly evident. The result was immediately seen in the beginning of the revolution in architectural design which is still in progress at the present time.

The weakness of Morris and his school lay in their failure to recognise certain conditions of the age in which they were living. One of these at least, the enormously increased use of machinery in manufacture, was not acceptable to Morris, who undoubtedly felt that machine production involved the death of fine craftsmanship, and, to an extent, of the spirit of fine design.

The Continental designers, on the other hand, while accepting the main principles of Morris, were better prophets of the trend of the age, and concluded that machinery might become a useful servant to design, since science was making possible the solution of difficult constructional problems, and was releasing architectural design from certain practical limitations in respect of form.

With a general acceptance of this point of view the field was clear for architectural progress. Certain designers in all countries recognised and rejoiced in this new freedom, while others feared it. From these two groups have sprung the leaders of the two main camps which exist to-day, the moderns and the traditionalists.

In central Europe and the Netherlands (yet inspired from an English source) were seen the first important results of the new outlook in architecture. The basis of the designs created by the pioneers of the new movement was the expression in terms of architecture of a given problem. The keynote of the design lay in the rational solution of the planning requirements ; the building was to fulfil its function efficiently and economically. Ready to serve the designer in his solution was the science of building construction, steel framing or reinforced concrete to permit wide spans, metal and glass to permit of light, electricity and mechanical appliances to supply illumination, heating, ventilation. Then, when these conditions were met in general arrangement, the orderly marshalling of rooms and services, the skill of the designer extended to contrive and scheme in such a way that the building, logically disposed, should also contribute beauty of effect. And finally, in the design of the exterior, a direct and simple expression of the structure and the building's plan, its important elements revealed by emphasis, its minor elements subordinated. The language of the expression to be freed from pedantry, borrowing and adapting from tradition when desirable, but released from any feeling of compulsion ; coining new architectural words or phrases where necessary, but only where the existing vocabulary of elements was obviously inadequate.

Such were the architectural ideals which found expression,

necessarily halting and inadequate, in the best work of the modern school. They are found in the work of Wagner in Vienna, in his Post Office for example, in the Bourse at Amsterdam designed by the Dutch architect Berlage, and in the vast industrial schemes of the Frenchman Tony Garnier at Lyons. In England, in domestic work of a fresh and charming character, C. F. A. Voysey followed, in his characteristic way, a similar line to that of the Continental architects, although within a smaller scope. And in Scotland Charles Rennie Mackintosh, both influenced by and influencing Vienna, created an architectural idiom which was his personal expression of rational creative design.

Interest in the work of Mackintosh was limited, though much of the very advanced architecture of the Continent to-day bears such close affinity to his designs that attention is being attracted afresh to his Glasgow School of Art and other buildings. But the name of C. F. A. Voysey is a household word amongst modern architects abroad, where his influence has been much more far-reaching than is generally imagined by his colleagues in this country.

In Central Europe therefore, in Holland and Belgium, and to a limited extent in France, a creative impulse in architectural design was awakened long prior to the war. It was present, too, in the United States, where the late Louis Sullivan and Frank Lloyd Wright were working out their theories of rationalism, form, and decoration, and erecting buildings which in their simple geometry of form and sweeping lines were far removed from the correct traditional formality of Hunt, McKim, or Burnham. These two men, forceful in word and deed, have had an exceedingly wide influence on modern European design, particularly in Germany and Holland.

The resumption of normal activities at the end of the war gave renewed impetus to the modern school of architects. The new movement, based on rationalism, resulted in buildings depending for their effect on simple masses, with stressing of the geometrical constituents of architectural form. From simplicity of form followed, naturally, restraint in decoration, and these characteristics were admirably suited to the requirements of post-war economy.

The absolute necessity for cheap building, or rather for designs which were shorn of all but essential features, was universally felt, both in respect of public and private building, and particularly in housing. This fact more than any other has fostered the development of a new architectural design, and has stimulated the architect to utilise to the full, not only his taste and knowledge, but his creative brain.

The first country to adventure on a wholesale scale in a novel architectural expression was, curiously enough, Holland. For

Holland has a beautiful tradition of her own, extremely characteristic, and a revolution in Dutch architecture might conceivably come as a surprise.

It is, however, largely owing to the beauty of their national architecture of tradition that her architects have made a concerted move in a new direction, for there was being experienced in Holland the same scourge of commercialised reproduction that has afflicted other countries. The spirit of the old design and craftsmanship was gradually being lost, and modern architects had begun to realise, however regretfully, that under present conditions it could hardly be recaptured. And so, urged also by the pressure of other circumstances, Dutch architects have burned their boats ; considering their problems with a fresh eye, they are now in process of creating a style of architecture which in its turn is forming a tradition.

The first and most striking examples of the new Dutch architecture were provided by the housing blocks in Amsterdam, designed by a number of brilliant young architects, prominent amongst whom were Kramer and de Klerk. Their buildings are in brick, generally with flat roofs, and their windows, instead of being individual units as in late Dutch Renaissance work, are grouped in long horizontal bands. The general direction of the mass is horizontal, with occasional strong vertical contrasts, and the powerful masses of plain wall surface are relieved principally by the window groups or by heavy overhanging balconies with solid fronts. The effect, in the main, is that of cubism, relying first on emphasis of form, with relief in the modelling of secondary elements such as the balconies and doorway openings, and in the texture of the beautiful Dutch brickwork. For in their brickwork Dutch craftsmen of to-day uphold the best traditions of their trade.

At first marred by over-emphasis—a desire, as it were, to bludgeon the spectator by power of mass—and by eccentricities of detail, the modern Dutch architecture is tending towards greater simplicity and restraint, and is avoiding the reproach once levelled that it was architecture ' dehumanised.' There is so much of this new work in Amsterdam and other Dutch cities that it is now beginning to form a harmonious *ensemble.* And while it is undoubtedly based on general principles similar to those which are governing in other European countries, the handling and quality of the materials, the use of gay colour, and certain characteristic mannerisms in detail have given to this new architecture a cachet peculiar to the country. Modern Dutch architecture is immediately recognisable as such, and, foremost amongst the countries in Europe, Holland has imbued her new buildings with the stamp of a style which, however much it may be criticised, must be acknowledged as truly national.

In Germany, Austria, and Czecho-Slovakia the new movement is also in full swing. Scarcely a new building is designed to-day which does not belong to the modern school in its insistence on emphasis of form, its extended use of iron, glass and concrete. Wide spans and strongly marked horizontal or vertical lines, the design of fronts with continuous ranges of windows, often cantilevered out from stanchions situated behind the façade, are the order of the day. The expression in mass design and detail ranges from a modernised version of classic or Gothic to extreme cubism. But at present the balance is in favour of almost radical departure from tradition, and an extended use of every constructional resource which modern engineering offers.

In Denmark and Sweden the architectural movement is more sober and restrained. In Sweden are found new architectural forms with charming detail inspired by tradition, while in Denmark the form is traditional and the detail shows a modern influence. Both countries in the main, however, show a predilection for the classic, though, in Sweden particularly, it is an eclectic grasp of style, as constituting purity of expression, which is the basis of inspiration.

The most northerly country to contribute to the new movement is Finland, where, largely influenced by Saarinen, is a school of modern architects whose work recalls Teutonic modernism, but in a rugged and quite characteristic vein. The great railway station at Helsingfors is Saarinen's best-known work, but his greatest influence has been felt in the United States, where his second prize design for the *Tribune* building in Chicago was largely responsible for the creation of a fresh outlook on the question of skyscraper design.

Last, but not least, in the European field comes France, with a school of advanced modernists of whom Le Corbusier has been the most effective spokesman.

The influence of Le Corbusier in his plain cubist structures, with their flat roofs, their plain white walls, and their long rows of steel-framed windows, has been considerable; and his project for the Palace of the League of Nations at Geneva, which is said to have received more votes than any other in that unfortunate competition, was a remarkable and original creation. But it is in his books—*Vers une architecture*, *L'urbanisme*, *Les Arts Décoratifs d'aujourd'hui*—that Le Corbusier has done his greatest service to architecture. He has a clear brain, a gift for exposition. He has encouraged, even forced, not only the architect, but the layman, to think. He has, like most enthusiasts, been led to extremes for the sake of his beliefs. But he has stimulated architectural thought to a high degree, and his influence in this country and abroad is yet to be appreciated in full measure.

HOWARD ROBERTSON.

THE IMAGE THAT FELL DOWN FROM JUPITER

TWO HUNDRED years before Christ King Attalus demanded of the Phrygians, and carried with great ceremony to Rome, a black stone that had fallen from heaven and been preserved for many generations, worshipped at Pessinus as Cybele, the mother of the gods. Diana of the Ephesians and the image of Venus at Cyprus are believed to have been likewise in origin meteoritic stones. A famous example, never properly studied, is built into the north-eastern corner of the Qaaba at Mecca. A stone actually seen to fall from the sky on November 10, 1492, was hung by King Maximilian in the church of Ensisheim, in Alsace, and is still in the *Rathhaus* of that town. Throughout the ages it was recognised that things did sometimes come down from heaven, and very naturally they were venerated upon earth, until the end of the eighteenth century, when men of science, so called, assumed the superior attitude that stones could not fall out of the sky, and therefore they did not: to suppose they did was men's ignorance and superstition. But the heavens responded with so large a shower of stones upon the village of L'Aigle in 1803 that even the sceptical Academicians of Paris were obliged to admit that what was 'evidently impossible' was nevertheless true. From that time onward meteorites have been collected in museums and analysed, cut into slices and etched with acid, photographed, exchanged, and catalogued. And, in the famous words of Artemus Ward, 'the researches of many eminent scientific men have thrown so much darkness upon the subject, that if they continue their researches we shall soon know nothing' about the origin of meteorites. 'What man is there that knoweth not that the city of the Ephesians is a worshipper of the great goddess Diana and of the image that fell down from Jupiter?' cried the town clerk of Ephesus in the riot that followed the sermon of St. Paul. There have been many worse theories since his. We are not sure yet, in spite of our planetesimal hypotheses, that he was not right.

These reflections are suggested by an excellent book lately published. Professor Charles Olivier, of the University of

Virginia, believes that the failure of the Leonid meteors to return in 1899 was the worst blow ever suffered by astronomy in the eyes of the public, and did immense harm to the spread of science. 'Meteoric astronomy has never since in America recovered its proper place in the attention of professional astronomers as a class.' But that, if true, is no fault of Professor Olivier, who has inspired the American Meteor Society in these later years to a prodigious activity with a very interesting outcome. On a fundamental but mysterious question they flatly contradict the results of British meteor observers long maintained and of late strongly reaffirmed. That is the way to arouse a subject from neglect, for paradoxers—especially 'flat earth' enthusiasts—are wrong in at least one respect when they charge astronomers with leaguing themselves together to bolster up an imposture from which they gain their living. Ludicrous misapprehension of the paradoxers! Einstein owes half his fame to our belief—whether we can understand him or not—that he has overthrown in some degree the classic theory of Newton. That is the kind of scientific feat that appeals to our best instincts. And now that Professor Olivier has obligingly written a very good book—a profession of faith in the identity of meteorites and meteors—he will be the first to welcome, as he has invited, a little assault upon that faith in which I will venture to engage.

There is much to be said for the view that meteorites which fall to the earth and meteors which are consumed in the upper atmosphere are indistinguishable except for accidents of size and velocity and the circumstances of approach to the earth. If one is big and moving slowly and overtaking rather than meeting the earth in its orbit, it will get through the protecting shield of air with no more damage than some skin friction enough to make it brightly luminous and give it just the characteristic fused glaze of the meteorite; or perhaps even to split it in fragments, if it is a meteorite of the stony kind that is a bad conductor of heat. But it comes to earth generally very hot and with speed enough to bury it deep in the ground, though sometimes so slow that it will not even crack ice on which it falls, and once at any rate so slowly that instead of being hot it was intensely cold with the cold of external space.

On the other hand, the meteor, the common shooting star, is consumed in a flash by the friction of the upper air, and leaves nothing for us to examine except a little doubtful dust on arctic snows or the floors of the ocean deeps. By good luck one may get a record of the flash's spectrum on a plate exposed for the stars; but the light comes so much from air made luminous that we learn little about the original meteor. Therefore we are left with arguments by analogy of a general kind that appeal to

the intelligence with more or less strength as one is, or is not, disposed to look for essential unities or to welcome diversities, and that depends upon the kind of mind one has.

All that we can know about meteors is numerical and geometrical. When they came thick in thousands per hour, as in the great Leonid showers of 1799, 1833, and 1866, they were nevertheless so sparsely scattered in space that one to each cube of space 100 miles a side was Simon Newcomb's estimate of their distribution. They are more frequent in autumn than in spring; they are more frequent after midnight than before, for a purely geometric reason: the meteors of any one shower or family seem to radiate from a point, more or less, and the exactness with which they do so is the criterion of a real parallelism in space. The radiation is a mere perspective effect, like the divergence of parallel lines in a bridge, or of rays from the sun behind a cloud. The radiant points give the direction from which the meteor streams intersect the earth's path: if they persist for more than a night, they should move among the stars—yet they do not, in most cases, according to the English. Certainly four, and probably several more, meteor streams move in the closed orbits of periodic comets, with which they therefore have something to do, however uncertain it may be whether the meteors make the comet, or the comet discards the meteors. And the average meteor cannot weigh more than a few grains, or it would disappear in a brighter flash than it does. These dry geometrical and numerical results are the kind of thing and the principal things we know about meteors, for we have never certainly handled one. Only one meteorite has come to earth during a meteor shower, and one swallow does not make a summer.

But the meteorite which falls to earth finds itself sooner or later in a museum case, all classified and labelled and cut into sections and analysed with puzzling results. No one can maintain that they are all of one kind, for some are entirely made of iron rich in nickel, and others are mostly stone with an odd structure, rather like whole marbles set in a paste of crushed marbles, like nothing on earth. Strangest of all are the rather uncommon sort, like a stone pudding with iron plums, or an iron pudding with stone plums. You have only to look at one to sympathise with the rustic who saw a giraffe for the first time and *didn't believe it*. They are odd enough material to find upon the earth, but unbelievable things to fall out of the sky. They do so, however, and our problem is to consider from what large mass they have been broken or ejected.

From some large mass they must have come. It is no more possible that they can have condensed in this shape from random vapours wandering in space than it is possible for a slice of cold

plum-pudding to be formed from the casual encounter of its ingredients in a tornado that has destroyed a grocer's store.

On the other hand, we know next to nothing about the composition of the little meteors which flash and are gone, except what may be deduced from their rather vague association with comets. Because the celebrated periodic comet of Biela broke in two at one apparition, and the next time but one failed to appear at all, whereas out of the same orbit, but at the wrong times, two famous showers of meteors appeared, we have been asked to believe that in those showers the comet was 'shedding over us the products of its disintegration.' Let us see what we know about comets, and how far that is likely.

Astronomers are agreed on one thing, that comets have very little mass. They get pulled about by the attractions of the planets without producing any effect on the motions of the planets in return, as they must if their masses were considerable. They have therefore little stuff in them, comparatively speaking, as indeed is otherwise evident from the fact that a star can shine right through them, and they cannot be seen against the sun. Many would have us believe that the body of the comet is a swarm of meteors—of small fragments—moving together in an orbit round the sun; and some have been content to believe that mutual collisions and friction between the individuals of the swarm are sufficient to account for all the luminous phenomena of the comet.

Yet it is hard to see how the authors of this hypothesis can make out the probability of enough friction and collisions. They believe the comet nucleus is but a shower of meteorites. As it has little mass, and is transparent, the meteors must be far apart. The nucleus can therefore have no mechanical strength, and if it keeps together it is because each particle moves as an independent planet; from closely similar conditions of projection the orbit will be similar and the flock keep together. But if they begin to collide and by impact produce heat and light, one would suppose that such neutral interference would bring inevitable decay and scattering of the swarm, since its mutual gravitation must be feeble in the extreme. This, then, is the first difficulty: how can a sparse distribution of iron or stony fragments moving all the same way continue on parallel paths and yet rub one another up sufficiently to produce light? And again, why should the comet brighten up so much as it approaches the sun if its light is derived from the mutual friction of its parts? True, the orbits of the particles would tend to approach one another, on the average, as they got nearer the sun; but the increase in brightness seems out of all proportion. Must it be partly due to reflected sunlight? The spectro-

scope seems to say plainly, No !—not to any great extent. But here we should say at once that difficulty No. 2 is far more serious : how can a thin, cold, scattered collection of meteoric stones grow a tail or a sheaf of tails ?

When a comet's head gets really active and produces tails, the results are so brilliant, so strange in their dynamics and geometry, that we can be sure at least they are due to no results of collision or friction. Something very much more active and powerful is at work then, and must have been effective to a lesser extent before. We may therefore suspect that light produced by internal friction has little to do with the brilliance of the comet at any time.

We have said that something very powerful is required to explain the comet's tail, and, to prove that point, need cite only the comet of 1882, which passed so near the sun that it almost grazed it. In three and a half hours it had described 180 degrees of its orbit. One morning the tail stretched 100,000,000 miles in the eastern sky. The same evening it was equally long in the other direction. If it had been made of steel lattice girders it could not have stood the strain of being swung round like that : we must conclude that the tail of the evening was a new tail, grown in a few hours, at a rate perhaps one hundredth that of the velocity of light. And on this single case we might very well say that the tremendous forces required evidently came from the sun, and not from the comet. But the nature of the repulsive force remained for a while undetermined.

A good many years later an American professor came to Cambridge with a model comet's tail sealed up in a glass tube. Something like an old-fashioned hour-glass was filled with the light very fine powder of lycopodium instead of sand, and the tube was exhausted of air. As the fine stream of powder fell through the tiny connecting tube from the upper to the floor of the lower chamber an intense beam of light was thrown across it, and the powder was deflected to the side by the pressure of light. By this beautiful experiment Professors Nichols and Hull verified the truth of what had long been known from theory, that light impinging on a body exercises a pressure. This pressure, however, is now known to depend on the size of the body pressed, and is effective only when the body is so small that its diameter is pretty nearly the same as the length of a light wave—say a thirty-thousandth of an inch. Mixed with the grains of lycopodium powder in the tube was the finest sand that could be separated. It fell straight through the beam of light, while the much smaller lycopodium was swept aside.

This brilliant verification of Clerk Maxwell's theory was hailed with great applause, and seemed at first sight to solve

the problem. Yet subsequent reflection has a little dimmed our satisfaction. It is awkward that while the pressure of light is effective only on solid bodies, and has no effect upon transparent gas, the spectroscope seems to show that the comet's tail is luminous gas. How it continues to keep luminous in its high attenuation and exposed to the cold of space is just one more puzzle, but not the last.

One of our great difficulties is that comets are such shy and fugitive creatures. They create a sudden excitement and are gone before one has had time to put them to the instrumental test and made them answer the innumerable questions that their strange and ever-different behaviour suggests. So soon as it has been well established that a comet's nucleus shines with the light of luminous hydrocarbon vapours, a brilliant comet (1910 *a*) comes along in which it is all sodium. Find a theory that will explain a curved tail and suggest that all tails ought to be curved in varying degrees to one side of the radius vector from the sun: straightway a comet appears with a bunch of resolutely straight tails radiating symmetrically like the sticks of a fan. We have at this moment no theory whatever to explain one hundredth part of the bewildering appearances that a good comet's tail will present in its brief passage across the stage of heaven; and least of all, it seems to me, can we explain how the tail is produced from the head.

There was a wonderfully useful comet discovered in 1908 by Morehouse at the Yerkes Observatory—not one of the most spectacular, but reasonably bright and splendidly placed in the sky, so that, unlike most comets, it was in the autumn of that year visible for most of the night. Barnard at the Yerkes Observatory and Davidson at Greenwich obtained a long series of pictures which for the first time allowed us to see what happened from hour to hour instead of from day to day. At Greenwich the sequence of events in the head was studied in great detail by Eddington and Davidson with extraordinary results.

In a fountain which throws up jets of water with equal initial velocity each jet describes a parabola, the upright ones tall and narrow, the side ones shorter and broader, but all just neatly touching and enveloped by a single paraboloidal surface, the 'envelope' of the whole series of curves. This is an elegant result in simple dynamics, familiar to all students. If the gravitational acceleration downwards, due to the attraction of the earth, was to be replaced by an equivalent repulsion from above, exactly the same result would be produced. Now in Morehouse's comet there appeared suddenly parabolic envelopes around the nucleus, which quickly collapsed and were renewed. They were carefully measured, and calculation showed that the

matter which formed them must have been expelled from the nucleus with velocities that were not always the same, but rose occasionally to 100 kilometres per second. The fountain thus formed was repelled by a force which again differed very much from time to time, but was on the average several thousand times as strong as the gravitational attraction of the sun, and many times stronger than the repulsive forces which ultimately drove all the material of these luminous envelopes out along the tail.

There has never been another comet to show so clearly that we have no explanation at all of these phenomena. What can excite a scattered drift of stones to produce jets of hydrocarbon or sodium vapour moving at 100 kilometres per second? If the jets are gaseous, what is the force acting upon them to drive them back when light pressure is excluded? If they are small solid particles, what power is it that grinds up the stones to impalpable powder and throws it off with speed, to be cast back by the pressure of light, perhaps, which yet mysteriously loses its efficiency so soon? These are questions which cannot be answered; and they are asked here to emphasise the fact that to explain a comet as having a nucleus of meteors leads us nowhere. Something far more exciting and incomprehensible is happening in a comet than can ever be explained by supposing it made of small fragments of iron and stone such as in larger pieces come down to us as meteorites.

The contention is, therefore, that if meteors are the principal components of comets they must be endowed with mysterious properties that cannot be recognised in meteorites; while if they are not the principal components, yet some of them do at any rate move in comets' paths and are peculiarly related to them. Nothing that we know about meteorites and their composition seems any help at all in understanding comets, and we may probably be quite wrong in supposing that they have more than an accidental association with the comets' poor relations, the meteors.

This is a bit revolutionary, and contrary to all the best authorities, among whom is certainly Professor Olivier. But I would like to propose to him that it gets rid of some terrible difficulties. So long as meteorites are the big brothers of meteors they must be supposed to follow more or less in the same paths, namely, those of comets, and at any rate sometimes to have come to us from outer space, beyond the confines of our solar system. Where, then, in the universe did they originate, these pieces of nickel-iron that has been crystallised, these stray conglomerates that must be parts of massive bodies, these plum-puddings of iron and stone that were never formed by condensa-

tion of vapours or accretion of fragments meeting casually in space? In discussing this charming problem Professor Olivier neglects altogether the view which, in my humble opinion, has much to recommend it, that they are fragments of our own earth, ejected by something like volcanoes when the earth was young, and occasionally coming back again. Meteorites have never been found to contain any element which is not contained in the earth; but they do contain such compounds of those elements, and, in particular, some that can hardly persist within reach of an atmosphere containing oxygen. If, then, they came from the earth it was from far within, or before our present atmosphere was formed, in which there seems nothing improbable, but rather the reverse. For we have seen how much the friction of the atmosphere slows down a meteorite entering from without, and evidently it would be equally, or still more, effective to retard escape from within. As for the power of volcanoes to throw a stone right away from the attraction of the earth, it is true we have no evidence that they can do so now; but the modern volcano is probably a weakling descendant of those which spouted when the earth was younger. And if out of the modern solid earth—solid certainly 60 or 70 miles down, and probably very much further if not to the centre—it is possible to get such powerful eruptions from local product of heat or chemical action, we need not boggle at believing that in more primitive conditions the eruptions were a great deal more lively.

It is singular that more attention has not been paid of recent years to the clear mathematical advantages of believing that meteorites were ejected by the earth. If a projectile is cast out of the earth to circulate as a little planet about the sun, its path may be here or there, but it will always fulfil one condition, that the projectile at every revolution passes through the point from which it was thrown. Or, rather, it would do so were it not for the perturbations in the orbit induced by the attractions of the other planets. These will swing it to and fro, but they will not act persistently in one direction for ever. So sooner or later the projectile is likely to meet the earth again at or about the point where they first separated, and then the projectile will return to earth.

This, at least, was the conclusion to which Sir Robert Ball came in a paper—now apparently forgotten—which he read to the Royal Irish Academy on January 13, 1879. He had been studying a paper published in Vienna by Chermak, which, 'after rejecting as untenable the supposition that meteorites have any connexion with ordinary shooting stars,' led on to the conclusion that 'many celestial bodies of considerable dimensions are still small enough to admit of the possibility that projectiles driven

from them in volcanoes shall not return by gravity.' Ball therefore set himself the question: If meteorites have been projected from volcanoes, on what body or bodies in the universe must these volcanoes have been located? He rejects the sun because it can hardly be solid enough to contain material of the breccia or plum-pudding kind; and the moon he rejects because if a body projected from the moon missed the earth at first it would miss it for ever, unless brought at last into contact by the planetary perturbations. He then turns to the minor planets and shows the improbability that a body would be projected with the nice combination of direction and speed to cross the narrow track swept by the earth in its orbit. The greater planets he rejects also, for reasons not strongly stated, and arrives at the result that the earth itself is by far the most likely source of those bodies which ultimately return to it.

This simple mathematical argument of Sir Robert Ball has had few supporters in recent years, when it has been all the fashion to consider meteorites and meteors as big and little members of one race. Of late this simple and easy doctrine has been attacked on several sides. We have von Niessl maintaining that the larger meteors come from the interstellar spaces and only the smaller shooting stars belong to our solar system; while W. H. Pickering, on the other hand, would class the iron meteorites with the cometary shooting stars and make the stony meteorites fragments of the earth which were broken away on that long-distant and hypothetical day when the moon separated from the earth and left the basin of the Pacific Ocean behind as a mighty scar.

Through these eddies of conflicting notions Professor Olivier steered cautiously to the conclusions that meteorites and fireballs and meteors differ only in mass and velocity relative to the earth; that some of those classes are connected with comets and belong to our own system, while large numbers come from outer space, that is, from other stellar systems; and finally that to the planetesimal hypothesis of Moulton and Chamberlin, or some similar catastrophic process, we must assign a large percentage of all stellar systems, if we would explain the number of bodies we meet which come from outer space.

And here there is just one remark to make. The planetesimal hypothesis once had a considerable success, but criticisms of great mathematical weight are not wanting. It seems enough here to ask whether it is sufficiently clear that jets of liquid matter propelled from a sun by a tidal disturbance can solidify into minerals with all the curiously mature characteristics of a meteorite. For, come what may, meteorites must be regarded as fragments broken cold and solid from large bodies. In that

we are at one with Professor Olivier; and it does not seem quite consistent with the primitive catastrophic origin to which in the end he inclines.

If the conclusion of the matter seems to be that when the discussion is finished we do not know much more for certain than when we started, that is no more than the truth: it will be a dull world when there are no more tangled mysteries to unravel and discuss. For the moment, however, let us turn away from cosmical speculations that are too hard for us and walk once more through the galleries of a museum, regarding the meteorites as mere objects of the collector, whose first care is that the objects are genuine. Is it certain that all the bodies preserved in our museums as meteorites have really fallen from the sky? The total number of recorded falls and finds is not so great. In his catalogue of meteorites, published by the Trustees of the British Museum in 1923, Dr. G. T. Prior, then Keeper of the Mineral Department, collected a total of 850, of which 834 have been preserved, or at any rate are so far described that they can be classified. Of these 834, 321 are classed as irons, 35 as stony irons, and 478 as stones. Of the 478 stones, 403 were seen to fall, and 75 have been found exhibiting such likeness to those undoubtedly fallen that they are generally accepted as genuine meteorites. Of the 321 irons, only 22 have been seen to fall, and 299 are finds. This is a striking disproportion, and we are entitled to ask: Are the characteristics of meteoric irons so uniquely and incontrovertibly established by the 22 certainties that we are entitled to label the 299 finds as undoubtedly unobserved falls? To this question mineralogists have always given the same reply, that the crystalline structure of meteoric irons is unmistakable; and those who are not mineralogists must be content to accept this judgment. Yet let us observe that if their structure proves they have the same origin it does not by any means follow—though it has always been assumed—that all these finds fell down from the sky. Suppose they had an origin within the earth, and that some of them never got up into the sky. This, to the astronomer, is most unorthodox doctrine. But it has happened to the writer that he began scientific life as an astronomer and later became more of a geographer. In the latter capacity he invites the attention of astronomers to the following curious facts.

Of the 299 finds of meteoric iron no less than 248 belong to the Americas and Australasia, leaving only 51 for Europe, Asia, and Africa between them; whereas of the 22 recorded falls 8 belong to the former and 14 to the latter.

Of the 75 finds of meteoric stones 58 belong to the Americas and Australasia, and 17 to the other continents, whereas of the

403 recorded falls only 71 belong to the former, and 332 to the latter.

Or taking both classes together and using round numbers, four-fifths of the observed falls occur in Europe, Asia, and Africa, and more than four-fifths of the finds come from America or Australasia. Indeed, just one half of the total finds of meteoric iron and nearly one half of the stones belong to the United States and Canada, and to these proportions Canada contributes a share disproportionally small.

In its simplest terms our problem is reduced to this: Why have nearly half the finds of meteoric iron been made in the United States? Shall we attribute it to superior intelligence and observation, with a good eye for minerals? That must have helped, but can scarcely be the complete answer. Have desert conditions and small weathering in a dry climate contributed to the result? A little, no doubt; but the geographical distribution of the finds is not markedly related to the climatic conditions, and extensive ploughing has probably more to do with it. Nevertheless, it is hard to believe there is not something more in it than that; I would rather believe that terrestrial volcanoes did not always succeed in throwing their projectiles clear of the earth, and that in continents where the meteoric irons are disproportionally numerous we may perhaps recognise regions where the volcanoes were active in days very remote.

It will be said at once that there are two grave difficulties in accepting this suggestion—that iron meteorites are always found on the surface, or no more below it than can be reckoned as penetration due to the velocity of the fall, and that, exposed to the corroding effects of the earth's atmosphere and moisture, they must soon rust away. They could not last for geological ages in the earth, but must have spent most of their time in the non-corrosive wilderness of outer space. Those that are found lying on the surface must be comparatively recent falls. Now this is true of some. There is a big meteorite in London which came from the dry climate of Australia, and of late years has shown its dislike of the London atmosphere by rusting and flaking away, so that they had to varnish it to protect it. But that is an exceptional case. Most of the iron meteorites are well protected with a glassy film of oxide assumed to be caused by surface fusion as they fell through the air; yet it is not impossible that some of them got that skin when they were thrown up from terrestrial volcanoes into the air and came down again. Moreover, most of the irons contain a good percentage of nickel. We have lately become familiar with the 'stainless steels' that owe their non-corroding qualities to nickel or chromium or other alloy; and we may well doubt if it is proved that a mass

of nickel-iron well protected with a fused skin of oxide would suffer much if it was buried for ages. True, they are not dug up from depths; but then, as only 299 had, up to 1923, been found lying on the whole surface of the earth, where they are most easily found, it does not seem surprising if chance has failed to reveal even one, as yet, in the relatively negligible excavations that have been made in the earth's crust. Without claiming too much for this argument, I would submit that the celestial origin of the 'iron' finds in our museums is not altogether beyond doubt.

It is difficult enough to suggest any theory that will fit more than 40 per cent. of the facts, even the simplest. Why, for example, if they are fragments of a body disrupted in outer space, should they be so relatively small and so much alike in size? The largest is only thirty-six tons—a big lump of iron, but an insignificant celestial body. Why, again, should all the biggest fall in North America? and why should the ground beneath them show no signs of their fall in crushing or displacement of material?

There is just one place which is supposed to indicate the fall of a really big meteorite—Coon Butte, in Arizona. At Coon Butte is a really fine big hole, with lumps of stone and iron thrown about all round—a deep crater-like excavation 4000 feet across, with all the rock in the bottom crushed to powder and splintered for 700 feet below the surface, just the kind of scar we might expect to be made by the impact of a meteorite, say, 1000 feet in diameter, and hard to explain in any other way. There is the scar; but what has happened to the meteorite? The few tons of iron scattered round can hardly represent it. Borings all over the crater floor have failed to locate it. The 700 feet of crushed fragments seem inconsistent with the idea that at the point of contact everything was volatilised, and made an elastic cushion of gas that caused the great meteorite to rebound and go clear away.

Whether it really was a meteorite which dealt Arizona that smashing blow seems likely to remain a mystery—the last, but not the least, in the long story we have made on Professor Olivier's book. He believes that meteors and meteorites differ only in size, and that both come mostly from external space, disagreeing therein with the town clerk of Ephesus. As against both authorities I venture to put forth reasons geographical as well as astronomical for thinking that they come neither from beyond our system nor from Jupiter, but were thrown up from our earth's interior by early volcanoes, and that a proportion of them never left the earth at all. The last idea is possibly new: the rest of my thesis is a restatement of what was once held by

good authorities, but has been rather unaccountably neglected in a book which otherwise covers the field exhaustively. The fortunate students of this problem in the United States have unrivalled collections for study in the Field Museum, Chicago; the Museum of Natural History, New York; the National Museum, Washington; and the museums of many universities. Let everyone stand and contemplate a meteorite of the plum-pudding variety and ask himself the question whether he really believes that it ever formed from part of a comet, or was condensed from the vapours of space.

ARTHUR R. HINKS.

BABIES IN ANCIENT LITERATURE

THE heading 'Babies in Ancient Literature' will no doubt remind some readers of the famous chapter on 'Snakes in Iceland'; and it is true that perhaps the most remarkable aspect of the case is the negative aspect: babies are, indeed, conspicuously absent from most classical literature—if by classical we understand Greek and Latin. For in Hebrew we are not likely to overlook the stories of the infant Moses and the infant Samuel, which have never failed to appeal to poets and artists—and mothers; nor is Oriental literature in general lacking in appreciation of the charm of babyhood.

Why, then, Latin and Greek should stand alone in insensibility to what is, perhaps, the most beautiful thing in the world is a fact that calls for explanation. Perhaps in each case the explanation may be different. But we shall probably be right in connecting it in both cases with the general lack of what we call romance in classical literature; though this deficiency has been exaggerated, it is still indisputable. Classical literature on the whole has little of romantic love, comparatively little of romantic feeling, for Nature, and still less of what strikes us as religious sentiment.

In the main the Greek mind was too intellectual and rationalistic for what the Germans call *schwärmerei*—what we call gush, if it does not happen to meet with our approval. It is all a question of the distinction between sentiment and sentimentality. They were so chary of sentimentality that to us they are apt to appear deficient in sentiment: to them emotionalism of this sort was associated with the unrestrained passion of the 'barbarian' Oriental. The key-note of Greek literature, as of Greek ethics, is self-restraint.

In the case of the Romans we miss the clear-cut intellectualism of the Greeks, while the Greek self-restraint becomes hardened into a stoicism which at times passes into insensibility and brutality. This is particularly marked in the pure Roman blood: the Italian is more emotional—a fact which is the salvation of Latin literature.

The result is that not only is there little reference to babyhood

in classical literature, but there is actually no word at all for 'baby' in Latin, and no satisfactory one in Greek. It is true that the Greek *βρέφος* may be translated 'baby,' but it is a rather colourless word (neuter gender), and used in a quite impersonal way, namely a 'small child'—the cub of the human animal; in fact, the word never occurs in early poetry, and in prose is confined to the meaning 'cub.' [1] Homer has no noun at all expressing the idea, though his adjective *νήπιος* expresses the tender associations of babyhood better than any of the later words (in spite of the fact that, like 'infant,' it originally meant no more than 'speechless'). The same associations are expressed in Latin by the use of diminutives, as in the two Latin examples quoted below. It is rather a striking illustration of the Roman mind that the poets of the Augustan age—even Virgil—avoided diminutives.

It will not take long to examine all the passages in ancient literature—at least those known to the writer—which seem to indicate anything like the modern feeling for the charm of babyhood. Here, as always, we must begin with Homer. We may talk of the greatness of classical Greek literature, but there is nothing else in Greek at all comparable to Homer in width and universality of sympathy, in loving and understanding yet minute and crystal-clear observation. We are not surprised, then, to find in him the most perfect picture of babyhood in the Greek language:

> Andromache met (Hector), and with her came the nurse carrying at her bosom the tender child, a mere babe, Hector's dear son, like to a fair star: and Hector smiled, gazing silently on the child, but Andromache stood by, weeping, and clung to his hand, and thus spake [we must omit these wonderful speeches]. So speaking Hector reached for his child: but the child with a cry shrank back on the bosom of the nurse, amazed at the sight of his (dear) father, fearing the bronze and the horse-hair plume when he saw it terribly nodding on the top of the helm. And his (dear) father and lady mother laughed aloud. Straightway glorious Hector took the helmet from his head, and laid it gleaming on the ground: then, when he had kissed his (dear) son, and dandled him in his arms, he prayed [for glory for his son]. Having so spoken he placed the lad in the arms of his (dear) wife: she took him into her fragrant bosom, smiling through her tears.

Homelier, but equally charming, is the speech of the aged Phœnix, trying to turn aside Achilles from his wrath:

> I loved you from my heart: for with none other would you either go to the common meal, nor yet eat in your room, until I set you on my own knees, and gave you your fill of meat, first cutting it up for you, and offering you wine to drink. Often did you drench the front of my clothing with wine, bubbling it forth, like the troublesome child you were.[2]

[1] It originally seems to have meant *embryo*.

[2] The little girl of *Iliad* 16.8–10, a passage dear to Andrew Lang, is unfortunately too old for our purpose.

Where shall we next look? One thinks of the great woman-poet Sappho, of 'Euripides the human,' that great and sympathetic observer of woman's mind (stigmatised by the comic poets as a woman-hater!): on second thoughts the name of Herodotus occurs to the mind—Herodotus, the most delightful and companionable of historians, just because of his interest in those little details of everyday life which are usually thought beneath the dignity of history. Then one remembers how the Alexandrian poets started a reaction against the impersonal aloofness of classicism, and brought touches of domesticity even into the heroic legends—nay, into the doings of the gods themselves; as when Hera and Athena pay an afternoon call on Aphrodite, whom they find just doing her hair, and full of her troubles with her *enfant terrible*, Cupid. Surely we shall find something here!

We turn first to our woman-poet—*the* woman-poet, as the Greeks with reason called her (as Homer was *the* poet). Unfortunately, of all her work nothing is left to us but a few fragments —'jewels five words long,' as Tennyson called them: her works are said to have been consigned to the flames by monkish intolerance in Byzantine times. One of these jewels is the following:

Ἔστι μοι κάλα πάις, χρυσίοισιν ἀνθέμοισιν
ἐμφέρην ἔχοισα μόρφαν, Κλῆις ἀγαπάτα,
ἀντὶ τᾶς ἐγω οὐδὲ Λυδίαν πᾶσαν οὐδ' ἐράνναν . . .

—'A fair child is mine, in shape like the golden flowers, Cleis my beloved, whom I would not change for all Lydia nor lovely (Lesbos).' Such is the literal translation, but of all poets Sappho is the most untranslatable: the Greekless reader may well be excused if he hesitates to accept the scholar's assurance—and no scholar will deny it—that these three lines of Greek are among the world's great treasures of literature.

Then Euripides: there is little, if anything, in the extant plays which suits our purpose. Like other Greeks, Euripides knew how to bring in young children as an aid to pathos—this *argumentum ad misericordiam* was in fact a well-known stand-by of inferior orators, and is parodied by Aristophanes when the accused dog brings in his puppies to arouse the pity of the jury. Perhaps the pathos of the scene between Alcestis and her husband and their infant children, when Alcestis is about to die, is overdone and slightly unnatural—not indeed in itself, but in Euripides' treatment of it. But there is among the fragments of lost plays a perfect gem: it is the description of the young Opheltes, left unguarded for a moment by Hypsipyle—with fatal result, as it proved. 'Seated in the meadow, he took his spoil of flowers, glad at heart plucking one after another, his childish spirit insatiable.' Euripides was perhaps thinking of the lovely passage of Pindar, painted, as is his manner, with gleams of colour:

There he lay
Safe couched in reeds, amid the trackless wild
His soft limbs bathed in gold and purple ray
Of violets. So the mother bade him bear
Ever the violet's name (Iamus).

(Translation by F. D. Morice.)

Euripides has not disappointed us: what of Herodotus? Perhaps the most charming passage in his nine books is the scene where the ten emissaries of the Bacchiadæ arrive with instructions to make away with the baby Cypselus, the future tyrant of Corinth. I quote Rawlinson's translation:

So the men came to Petra and went into Aëtion's house, and there asked if they might see the child; and Labda, who knew nothing of their purpose, but thought that their inquiries arose from a kindly feeling towards her husband, brought the child and laid it in the arms of one of them. Now they had agreed by the way that whoever first got hold of the child should dash it against the ground. It happened however by a providential chance, that the babe, just as Labda put him in the man's arms, smiled in his face. The man saw the smile, and was touched with pity, so that he could not kill it; he therefore passed it on to his next neighbour, who gave it to a third; and so it went through all the ten without anyone choosing to be the murderer. The mother received her child back; and the men went out of the house, and stood near the door, and there blamed and reproached one another. . . . It chanced that Labda, as she stood near the door, heard all that the men said to one another, and fearful of their changing their mind, and returning to destroy her baby, she carried him off, and hid him in what seemed to be the most unlikely place to be suspected, viz. a 'cypsel,' or corn-bin. She knew that if they came back to look for the child, they would search all her house; and so indeed they did, but not finding the child after looking everywhere, they thought it best to go away and declare to those by whom they had been sent that they had done their bidding. . . . Aëtion's son grew up, and, in remembrance of the danger from which he had escaped, was named Cypselus after the corn-bin.

We come to the Alexandrians. No one who knows Matthew Arnold's translation of *The Women at the Feast of Adonis*, where the baby is so very much of an embarrassment to the two Syracusan gossips, will deny that Theocritus had an understanding eye for domestic details; here, however, it is not the charm of babyhood which is in evidence, but the reverse. But the idyll of the infant Hercules will provide what we are looking for. Alcmena 'washed the two babes, gave them the breast, then placed them in Amphitryo's shield' (instead of a cradle) 'and stroking the boys' heads thus began: "sleep, my babes, a slumber sweet and light [lit. "from which one awakens"]; sleep, my darlings [lit. "souls"], twin brethren, safe and sound; blessed be ye as ye sleep, blessed when ye see the dawn." So speaking, she rocked the huge shield, and sleep came upon them.' Then follows the

adventure of the snakes. Alcmena found Iphicles stricken with terror, and took him to her breast, but Hercules held out to his father the dead snakes; 'and Amphitryo wrapped him in his lamb's wool coverlet, and going back to bed, bethought him of rest.'

This is one of the two perfect lullabies in Greek poetry: the other is in a fragment of Simonides, who was famous for his tender sadness, particularly in his dirges, from one of which this is taken. Danae is at sea in the chest with the baby Perseus when night comes on, and she pours forth her sorrow in one of the most tender and moving passages in all Greek poetry:

> What woe is mine; but thou dost sleep on, and with tender spirit slumber in this cheerless brass-bound ark, lying in black darkness visible: thou regardest not the surge of the waves as they pass over thy deep-clustering locks, nor the sound of the winds, as thou liest in thy purple coverings. . . . But if thou didst fear where fear was, thou wouldst lend thy tiny ear to my words. So sleep on, I bid thee, babe; sleep too thou sea, sleep my boundless woes. . . .

Yet here, as usual in Greek, the poet seems not to be interested in babyhood for its own sake, but simply as a means of emphasising the pathos of the mother—otherwise he could hardly have referred to the 'deep-clustering locks' of the newborn baby (but the text here is uncertain). The Greeks must have loved their babies—though the prevalence of exposure and infanticide is difficult to explain away—but they seem to have regarded as a deficiency just that innocent 'seeliness,' to use the old word, which to us is their most engaging charm. It was this insistence on the intellectual side which was at once the strength and the weakness of the Greek mind. In the same way it may be doubted whether a Greek usually looked on the lower animals in the same way as an Englishman does. Xenophon, that mighty hunter, loved his dogs and horses, but it is their *intelligence* he is constantly harping on.

There is another Greek author who, we may be sure, was not insensible to the charm of childhood. No detail of domestic life failed to appeal to the warm heart and insatiable curiosity of Plutarch—the prototype and model of Montaigne—as readers of his *Lives* well know. His own quiet and happy family life, of which he gives us many a glimpse, presents a picture of a kind only too rare in the world of Juvenal, Tacitus and Domitian. Of his seven volumes of essays one of the most delightful is that on *Parental Love;* here we get a charmingly intimate picture of the Greek mother, delightfully translated by the 'translator-general of his age,' old Philemon Holland:

> She turneth toward [her sweet babe], she maketh to it, she smileth and laugheth upon it, she taketh it into her arms, she huggleth it in her

bosom, and kisseth it full kindly: neither all this whiles gathereth she any fruits of pleasure or profit, but painfully (God wot) and carefully

> 'She laps it then in rags full soft,
> With swaddling bands she wraps it oft,
> By turns she cools and keeps it warm,
> Loth is she that it should take harm:
> And thus as well by night as day,
> Pains after pains she taketh ay.' . . .

and he goes on to imagine the fathers of Euripides and Sophocles hearing them 'peradventure, when they were little ones, to stammer, to lisp, to spell and put syllables together, or to speak broken Greek.' (We know something of baby-Greek—and Latin, enough to show that baby talk has always been pretty much the same the world over: pappa, mamma, atta, kakka, tata, nanna, etc.)

To Plutarch again we are indebted for a domestic detail in the *Life of Cato* which we would not willingly miss: how the stern, hard old man insisted on being present when his infant son was being bathed and swaddled by his mother, and afterwards personally undertook his entire education, even to the extent of writing for him with his own hand a history of Rome in large letters. Judging from what we know of Cato's character, one rather suspects that this is more a sign of extreme conscientiousness than of any extraordinary appreciation of the charm of childhood.

From Plutarch, too, we learn the anecdote of the Spartan king Agesilaus, who, being caught romping with his children and riding on a stick, requested his visitor not to tell what he had seen until he had children of his own. This last story is rather outside the limits of babyhood, but I could not resist inserting it while treating of Plutarch.

I add a pathetic little poem (anonymous, probably quite late) from the Greek Anthology: here I must apologise for altering Goldwin Smith's version for the sake of fidelity to the original; some will object to the word 'pet,' but there is no other word which gives the idea:

> O Death, untouched by ruth, unmoved by prayer
> And could'st thou not the babe Callaeschrus spare?
> In Proserpine's dark halls now playeth he,
> The pet of all: but sad at home are we.

Finally we may quote two passages where the subject is treated humorously. The first is by Theophrastus, in his Character of the Complaisant Man:

> At dinner he will ask his host to call in the children, and when they come, will remark 'They're as like their father as so many figs': then he will draw them to him, and kiss them, and seat them by his side. With

some he will play childish games, calling out 'Flask,' 'Axe', while he allows the youngest to fall asleep on his stomach, in spite of the discomfort.

The second is old Strepsiades remonstrating with his graceless son:

I understood all your baby talk, whatever you wanted I twigged it.
If you whispered *bru*,[3] I knew what you meant, I gave you your drink, and you swigged it,
If you said *mamma* I knew you meant bread, and quickly cut you a slice, sir!
The moment I heard *kakka* I was up, and held you out in a trice, sir!

If in Greek literature we draw so many blanks and so few prizes, we shall expect still less when we come to Latin. Of Latin writers, perhaps the most universal in their sympathies (at least on the human side) are Plautus (many will think this a paradox and violently disagree), Cicero, and Virgil. Plautus, being a comic writer, has little or nothing to say of the charm of babies, but his interest and sympathy are shown by many references—he seems to have been chiefly struck by their messy little ways. Maternity, however, is nowhere treated with greater dignity and tenderness than in parts of the *Amphitruo*, in which Plautus is led by his sympathy far beyond the limits of comedy, into regions where his imitators Molière and Dryden were quite unable to follow him. Cicero, as far as I know, has nothing in his voluminous works which comes within our scope, and even the tender Virgil in his sole detailed reference to babyhood is so obscure that the passage has never yet been satisfactorily explained. The meaning apparently is 'Begin tiny babe [all Latin can say is *incipe, parve puer!*] with a smile to recognise thy mother; begin tiny babe; those who never smiled on their parents [or, 'on whom their parents never smiled'] no god ever honoured at his board nor goddess with her bed.' The original contains all sorts of defects; the only palliation of the last line is that it may be a reference to some lost nursery saying. The whole seems to me to be one of Virgil's most unhappy efforts.

There is a pretty passage in Statius, a poet in whom few would expect to find anything of the romantic spirit—unless they remembered his almost famous lines on Sleep. It runs thus:

Meanwhile the babe, in the lap of mother earth
Mid the rich verdure, as he crawls about
With looks down-bent, lays low the pliant grass:
Anon for his dear nurse he cries aloud,
Missing the breast, or smiles, his baby lips
Struggling with words reluctant; now with wonder
The rustling boughs he hears, now plucks a flower;

[3] For this Latin babies seem to have said *bua*.

His parted lips drink in the breeze: unwitting
Of lurking danger, careless of life he roams.

The scene is the same as that described by Euripides; but Statius has stamped it with the mark of his own individuality.

We are left with the 'tenderest of Roman poets nineteen hundred years ago'; here we find the one perfect expression of babyhood in all Latin literature—surpassing in fact anything even in Greek, except Homer himself; it is therefore all the more unfortunate that Catullus at his best is quite untranslatable. I have searched in vain for any translation which gives at all an adequate idea of the original, here quoted:

Torquatus volo parvulus
Matris e gremio suæ
Porrigens teneras manus
Dulce rideat ad patrem
Semihiante labello.

Sit suo similis patri,
Manlio, et facile insciis
Noscitetur ab omnibus,
Et pudicitiam suæ
Matris indicet ore.

This is part of an epithalamium for the marriage of one of Catullus's friends, Manlius Torquatus: the whole is remarkable in Latin poetry as being quite uninfluenced by Greek in sentiment and expression; and nowhere more notably so than in the lines quoted, with their perfect simplicity and sincerity, and loving use of the tender diminutives so characteristic of Catullus. As Mackail well remarks, 'not again till the Florentine art of the fifteenth century was the picture drawn with so true and tender a hand.' Sir William Jones, who translated it, paid it rather a left-handed compliment when he declared it worthy of the pencil of Domenichino. I am indebted for the following translation to Mr. J. F. Butler:

May we a babe-Torquatus see
Nestled on his mother's knee,
Dimpled hands outstretched to greet
His father, with a smile so sweet
On tiny lips half parted:

May all, who else had known not, trace
Torquatus' lineage in his face;
Like features to his sire's set there
His mother's chastity declare,
Prove Vinia loyal-hearted.

We have to wait fourteen centuries before we recapture this note in Latin lyric. I refer to the charming 'Virgin's Cradle-hymn,' which I had prided myself was rather a discovery—until

I saw that it had been discovered (and translated !) by Coleridge. Still readers of Coleridge will be glad to have the original :

Dormi, Jesu, mater ridet,
Quæ tam dulcem somnum, videt,
Dormi, Jesu, blandule.
Si non dormis, mater plorat,
Inter fila cantans orat :
' Blande, veni, somnule.'
(Anon.)

It will be seen that Coleridge's version is somewhat free—in fact, it gives rather an inaccurate idea of the Latin. I have therefore ventured to give my own version, which claims only the merit of fidelity, even to an attempt to render the quaint diminutives :

Mother smiles (sleep, holy Child)
To see your slumber sweet and mild ;
Gentle, wee Jesus, sleep.
If you sleep not, mother cries,
Praying as her wheel she plies,
' Come, wee gentle, sleep.'

This poem suggests two interesting trains of thought. It seems strange that one hears next to nothing of the lullaby in ancient literature. Obviously ancient mothers and nurses must have sung their children to sleep. What did they sing ? We do not know : the words of an ancient grammarian suggest that with the Greeks it was nothing more than a crooning or humming. The only known Latin lullaby is of scarcely more literary interest. It consists of the word *lalla* repeated indefinitely : our informant is uncertain whether it meant ' sleep,' or ' take the breast ' ! When we consider the number of lullabies, literary and popular, of mediæval and modern times, we cannot help feeling that this supports our suspicion that the ancients were not nearly so interested in babies as ourselves. The same applies to fairy-tales : I think it is certain that classical fairy-tales were few and generally unimaginative—more folk-tale than fairy-tale—*i.e.*, not originally intended for the nursery at all. On the other hand, the Greeks were rich in bogies, hobgoblins (nearly all female !), and all the other fearsome inventions of silly nurses. Once more the suggestion is that the ancient attitude towards young children was far less sympathetic than in mediæval and modern times. My own impression is that the ancients were never sufficiently interested in babies to try to understand them.

The other question has reference to the causes of this changed attitude towards infancy. The main factors seem to be two : Christianity and chivalry. Of these Christianity took over from the Jews that higher conception of motherhood, which distinguishes

the Jews not only from Greeks and Romans, but from other Orientals. To this was added the influence of the Nativity story, and the teaching and example of our Lord Himself. But, as far as we can see from literature, this never resulted in any radical change in the West in actual feeling towards babies. The question requires the most delicate balancing of evidence, and I only put forward my view tentatively, but I should say that the baby came into his kingdom with the growth of the cult of the Virgin Mary; in other words, the child was first merely the complement of the mother—it is noteworthy that the vast majority of early lullabies are religious. As this development was taking place, Teutonic influence was already beginning to work in the direction of what finally blossomed out as chivalry. The two influences converged and diverged, but their combined product was the modern conception of babyhood. This is northern, not southern, and, in spite of the genius and productiveness of the southern masters, the true spiritualness and inwardness of motherhood, and implicitly of babyhood, is better expressed by the German and Netherlandish Schools than by the Italian and Spanish, by Dürer and Van Eyck than by Raphael and Murillo. It is after all the 'true and tender of the Northland' which said the last word on babyhood.

W. B. SEDGWICK.

THE ENGLISH THEATRE OF THE ROMANTIC REVIVAL

LITERARY historians generally pass over the dramatic literature of the nineteenth century with more or less indifference as 'the one region of letters in which Romanticism had failed.' This, perhaps, is true in the sense that those plays which found their way to the stage had not the least pretension to literary or poetic qualities, while those which had any claim to such abiding virtues were as a rule shut out from the theatre. This does not, however, prove that the literary plays were altogether devoid of dramatic qualities: on the contrary, many of them were decidedly superior, even as dramas, to the popular 'German horrors,' the romantic spectacles, and the sentimental puerilities that flourished on the stage; and a few of these so-called closet plays—*e.g.*, *The Cenci*, *Sardanapalus*, *Henriquez*—fell short only of the highest perfection.

It is, perhaps, not generally recognised to-day against what tremendous odds the poetic playwrights of the age had to contend. The opinion of a contemporary critic may, therefore, be quoted with advantage. Writing in *Blackwood's Magazine* in 1823, this anonymous author observes that

> even those [*i.e.*, the serious playwrights] who write for the stage, changed as it is—for I maintain that the change is in the stage, and not in the power of writing for it—I think that even some of these, judging by what they have produced in their trammels, might have brought forth pieces not unworthy of at least the second class writers of the sixteenth century, if they had enjoyed the same advantages which those earlier writers possessed. This being understood as distinctly excluding those gentlemen who assist our patent managers in making the public taste even worse than need be; and who are content to act either by the year or by the piece, as illustrators to the work of the decorator and the machinist.[1]

In the eighteenth century the English stage was almost completely dominated by the classical tradition, which showed

[1] *Blackwood's Magazine*, vol. xiv., p. 560. Allan Cunningham also speaks of the limit put upon dramatic inventions. See preface to *Sir Marmaduke Maxwell*, p. iv.

gradual signs of wearing out as the Romantic Revival gained in strength, and was completely subverted only during the last years of the century, when a new spirit came over Europe—the spirit born of the great Revolution in France. The ideas of Condorcet, Godwin, and Tom Paine were in the air. People were naturally eager to see the new enthusiasm on the stage. The rights of man, the dignity of humble life, the triumph of Nature over the artificialities of society, these were the themes for the poets and the dramatists. In the field of drama, however, these ideas led to nothing better than the growth of the sentimental farce of Holcroft, Mrs. Inchbald, Colman the younger, and Morton. If the theatre-going public had been more intelligent, if the theatre had been free, this new atmosphere might have made for a vigorous dramatic revival, but

> The Drama's laws, the Drama's patrons give,
> And those who live to please, must please to live.[2]

Thus the English stage touched the lowest depth during those very years when the new inspiration was bringing about a great revival in other departments of literature. The popularity of the sentimental farce was so great that serious drama was completely driven from the stage, sloppy tearfulness supplying a sort of sentimental katharsis which satisfied the Dogberrys of the theatre. Thus the decadence of drama was all but complete. 'The old sentimental comedy,' says Dr. Doran, 'was bad enough; but the writers now mingled sentiment and farce together. The more loyal such writers affected to be, the more loudly their claptraps were applauded.'[3] And Gifford's indictment, though very strong, is only just.[4] The playwrights depended for the success of their plays exclusively on the actors. 'The loss of Lewis, whose gaiety of limb is of so much benefit to modern comedy, would be a perfect rheumatism to Reynolds, and the loss of Munden, who gives it such an agreeable variety of grins, would affect him little less than a lockjaw,' observes Leigh Hunt in the preface to his *Dramatic Essays*.[5] It is said that demand creates supply, and this was particularly true in respect of the stage at the close of the eighteenth century, and at the beginning of the nineteenth. Never before had the English stage so many star actors—especially comedians—as at this time. In an

[2] Johnson's address at the opening of Drury Lane.

[3] *His Majesty's Servants; or, The Annals of the Stage* (2nd edition), p. 415.

[4] 'All the fools in the Kingdom seem to have risen and exclaimed with one voice, "Let us write for the theatres"': *Quarterly Review*. See also *Mæviad* for his indictments on contemporary drama.

[5] Edition of Archer and Lowe, p. xxvii.; also *cf.* Byron, *English Bards*, 610–617.

anonymous pamphlet of 1773 there is a passage with a pointed reference to their improved social status:

> Players by all the world are now admired.
> Who live so well, or who are so attired? [6]

It is possible that this improved status of the actors, and also the handsome salaries which the more popular of them commanded, enlisted more and more men of talent for this profession. Some of them earned a salary which might well have excited the envy, not only of the proverbially ill-paid man of letters, but even of men belonging to the more lucrative branches of the learned professions. The great actors also did their allotted bit; but in giving of their best they helped to bring about a steady decline in the art of dramatic writing. What would otherwise have been hissed off the stage now thrived, supported and aided by the talent of a Lister or a Munden or a Lewis.[7] Besides, the dramatists, instead of writing from a conviction of what they had felt and realised, penned stage pieces suitable to the talent of particular actors. This was, of course, due to the power the player had in determining what play should be put on the boards. The dramatists, false to their noble calling, tried to tickle the vanity of these masters of the stage, and thus found entrance, through the back door of favour, to the much-coveted boards of the two theatres royal.[8] The characterisation of the plays declined to a mechanical repetition of single traits, the dramatists composing tipsy grimaciers for one, or voluble gentlemen for another, favourite star. 'Let the scene of the play be in what remote part of the world it might,' says Dr. Doran, 'they introduced an Irishman because Johnstone was there ready and richly able to play it.'[9] It is particularly interesting and instructive to note how the appearance of certain types of plays coincided with the appearance of particular actors. The scarcity of tragedy during the last decade of the eighteenth century and the first decade of the nineteenth century almost synchronises with the rise of the great comic actors. And the few tragedies written during this period synchronise with the rise of John Kemble and his sister. Between the years 1803 and 1813 only four new tragedies were performed; of these, two were given at benefit performances, and of the two others, one was William Godwin's

[6] *The Adultress*, printed by S. Blandon, Paternoster Row. The pamphlet lashes the fashionable vices of the age.

[7] See Edward Stanley, *Thoughts on Tragedy* (1790), pp. 134–135.

[8] Forster's *Landor*, vol. i., p. 137. Soane's *The Dwarf of Naples* (1819) is a striking example of this.

[9] Doran, p. 415. An extreme example of this is to be found in the character of Maclaughlin in George Bromley's *The Rebellion*; see also the author's apology for its introduction in the preface to that play, p. vi.

Faulkner (December 16, 1807) and the other was Coleridge's *Remorse* (January 22, 1813). It is further of interest to note that from 1813 onwards till about 1823 there was considerable activity among tragic poets [10]; and that Coleridge, Shelley, Keats and Byron, the four greatest figures of the Romantic Revival, excluding Wordsworth, wrote tragedies about the time when Kean flourished at Drury Lane and Miss O'Neill at Covent Garden. But it must also be remembered that the dramatic poets were fighting a losing battle. It was more often the vanity of the great actors than any genuine love of poetic drama on their part that led them occasionally to attempt a revival of the poetic style.[11]

The attempts at Shakespearean revivals by various actors were prompted by the same feeling. Kemble's professed love for Shakespeare was a sham. He mutilated the greatest dramatist of the world without compunction, and incorporated into his acting versions interpolations of Dryden, Tate, Cibber, Garrick, and Colman.[12] It must also be remembered, to his eternal discredit, that his *Lodoiska* [13] gave birth to a host of spectacular plays, and that it was he who, apparently for the first time in the history of the English theatre, introduced live horses on the stage in Colman's *Blue Beard* (February 1811).[14] His taste and the requirements of the vast theatre at Covent Garden alike led to the introduction of rich dresses, gorgeous scenic display, full choral music, and animated spectacles.

This leads to the consideration of the theatres themselves during the period. The Act of 1737 had limited the number of 'patent' theatres to two. These alone were permitted to per-

[10] It is of interest to notice that this also is the period following the Battle of Waterloo, when a dramatic revival could be naturally expected, as had happened following the defeat of the Armada in 1588.

[11] See M. Carhart, *Life and Works of Joanna Baillie*, p. 161, for an account of a quarrel between C. Kemble and Miss Faucit over the former's selection of *Henriques* for performance at Covent Garden. It was substituted by *Separation*, which gave Miss Faucit a good opportunity to show her skill as an actress in creating an original character. See also Fraser's *Literary Chronicle*, March 26, 1836, p. 269, also the prefaces to Charles Bucke's *The Italians*, giving the details of the unhappy story of his quarrel with Edmund Kean.

[12] The manner of staging Shakespeare's plays also betrayed this depravity of taste. See *Gentlemen's Magazine*, lxx., pt. i., pp. 318ff, 519ff and 1266ff.

[13] With music by Storace, first acted at Drury Lane, June 9, 1794, and revived at Drury Lane, 1824.

[14] *N.B.*—Horses may have been seen on the Elizabethan stage, but it seems highly improbable that this was so. Shakespeare was indeed equestrianised about the middle of the century by Cooke, who produced both *Richard III.* and *Macbeth* very successfully, as contemporary playbills have it. See 'The Equestrian Drama,' *The Nineteenth Century*, January 1928. In this particular venture Kemble was aided by J. Astley, and sixteen horses mounted by spahis appeared on the stage.

form legitimate dramas. The Haymarket Theatre was allowed to stage plays when, during summer months, the two 'patent' theatres were closed.

From the Restoration the theatrical architecture was gradually changing towards the modern picture-frame stage. The proscenium arch, an innovation from the Continent, was introduced at that time, and accordingly the stage ceased to be a platform in the midst of the spectators, as in Elizabethan days, though a part of it still projected into the auditorium, and was known as the 'apron.'[15] With Garrick began a series of reforms. He attempted to clear the stage of spectators, and to abolish the 'building' on the stage, which, however, persisted down to this period, as it would appear from Joanna Baillie's complaint about stage-boxes which caused 'an unnatural mixture of audience and actors, of house and stage.'[16] In 1765, after his return from the Continent, he ordered from Monnet Parisian scenery and lamp footlights, to improve the illumination of the stage, hitherto lit from above by 'some dozens of candles on two or three chandeliers.' In 1785, nine years after Garrick's retirement from the stage, Drury Lane was lighted with 'patent lamps.'

On the stage, thus changed, the actors could not be seen 'in the round,' except when they stepped out of the frame, but were presented like a picture in perspective. On the apron, however, the most important part of the action still took place, but dramatists now had to learn to manœuvre their characters on the stage into picturesque groups, poses, and situations to make their scenes effective.

Garrick, to whom so many improvements of the stage were due, was also unfortunately responsible for extravagant expenditure on costume. The improved lighting now served to show off to advantage the glitter of scenes, dresses and decorations, on which he lavishly spent money. This, no doubt, pleased the average playgoer, but the intelligent man resented it.[17]

> You [Garrick] have improved the lighting of the stage,
> Yet oh! what man of sense but sighs and stares
> When rags and sticks supply the place of players?[18]

says a critic of the time, and a frontispiece of this pseudonymous pamphlet represents Garrick trampling on the great classics, while in vain the muses try to calm his rage, with the following inscription:

[15] See Archer, *Playmaking*, p. 306.

[16] Joanna Baillie, preface to the third volume of *Plays on the Passions* (1812), footnote on p. 235, ii. (1851 edition).

[17] Allan Cunningham, in his *History of British Literature*, calls Garrick 'the great drynurse of dulness in dramatic composition in his day' (p. 270).

[18] *A Poetical Dissection*, by Nicholas Nipclose (1772).

Behold the Muses Roscius sue in vain,
Tailors and carpenters usurp the rein.

Covent Garden was in no better state under the management of Rich, who may be regarded as the greatest enemy of the national drama :

Covent also for many years has been
Of pantomime and frippery the scene.[19]

This was followed by what may be regarded as the Sheridan era. Whatever other gifts Sheridan might have had, he was not burdened with any conscience as regards the theatre. He looked upon it as his milch-cow, and his management of Drury Lane was throughout characterised by the spirit of profiteering. Early in the last decade of the century the two theatres were rebuilt for profits. The new Drury Lane held, we are told, twice as many spectators as its predecessor, and more than the present building. Its size was so enormous that the spectators seemed to be seated ' in the clouds.' Bellamy,[20] writing in 1795, says, addressing the theatre :

Thy vast and towering space has proved
The builder's triumph, but the actor's bane.

The other ' patent ' theatre soon followed suit, and became

Nought but a washy, wanton waste
Of gaudy tints and puny taste,
Too large to hear, too long to see.[21]

So vast were the proportions of Drury Lane that Mrs. Siddons is said to have remarked once to a new-comer, ' You have come to act in a wilderness of a place.' [22] Even when rebuilt after the fire it was a vast hall—so vast, that a contemporary critic warned Kean not to place ' too much reliance on the expression of the countenance, which is a language intelligible to only a part of the house.' [23] The sister theatre at Covent Garden was equally ill suited for the subtle acting required for tragedy and high comedy. As late as 1836, the dramatic critic of the *Athenæum*, reviewing a performance of Joanna Baillie's *Separation* at Covent Garden, remarks that ' with the assistance of an opera-glass we saw it, but not having had an ear-trumpet, we cannot with truth assert that we heard more than half of it.' [24] Scott complains in his

[19] *A Poetical Dissection*, by Nicholas Nipclose (1772).
[20] Thomas Bellamy, *London Theatres* (1795).
[21] William Combe, *The Tour of Dr. Syntax* (1810), p. 224.
[22] Quoted by F. Sharp, *A Short History of the English Stage*, p. 91.
[23] *Ibid.*, p. 113.
[24] *Athenæum*, February 1836. See also Joanna Baillie's preface to *Miscellaneous Plays* (1805), vol. ii., p. 391, *Complete Works*, 1851 edition, and Milman's remarks in the original Advertisement to ' Fazio,' *Poetical Works*, vol. iii., p. 117, (1839).

Essay on the Drama, 'Thus we have enlarged our theatres, so as to destroy the effect of acting, without carrying to any perfection that of pantomime and dumb-show,' and laments that 'show and machinery have therefore usurped the place of tragic poetry; and the author is compelled to address himself to the eyes and not to the understanding or feelings of the spectator.'[25] The possession of the stage by spectacles is a matter of common complaint.

> The painter's art the play commends,
> On gaudy show success depends,[26]

says the great Dr. Syntax. Costume now claims chief attention:

> The clothes are made in just design,
> They're all well charactered and fine.
> The actors now, I think, Heaven bless them,
> Must learn their art from those who dress them.[27]

Thus the two great theatres, the home of legitimate drama, were gradually losing their character and heading steadily for spectacular plays, dance and music. The tagging of an after-piece to a regular drama had become popular in the eighteenth century, and dance and song came to be sandwiched between the acts of a play. Edmund, in *Mansfield Park*, says, 'Let us have a play entire from beginning to end . . . with a good tricking, shifting after-piece, and a figure dance, and a hornpipe, and a song between the acts.'[28] Joanna Baillie likewise complains that the size of the theatres was responsible for the character of the pieces exhibited.[29]

The decline of the acted drama was further accelerated by the presence of a considerable body of minor theatres that gave popular entertainments. Of these the most important was the theatre at the Haymarket. Here, as already noted, performances were given only when the larger houses were closed. The theatre was small, and therefore more suitable for good acting than the 'patent' theatres, 'where half Thalia's fire was apt to fizzle out like a damp squib before it got over the foot-lights.'[30] But after Colman the elder's death his son's management of this theatre proved altogether disastrous. Of the other minor playhouses Sadler's Wells was the oldest, having been built in 1765. It had

[25] Scott, *Essay on the Drama*, p. 224.

[26] *The Tour of Dr. Syntax*, p. 233. Maria, in *Mansfield Park*, has the same thing in mind when she says, 'We must adopt Mr. Crawford's views, and make the *performance*, not the *theatre*, our object' (chap. xiii.).

[27] *The Tour of Dr. Syntax*, p. 234. Canto xxix. of this book deals at length with matters theatrical.

[28] Jane Austen, *Mansfield Park* (Winchester edition), vol. i., chap. xiii., p. 183.

[29] *Dramas*, vol. ii. (1836): 'To the Reader.'

[30] F. Sharp, *A Short History of the English Stage*, p. 102.

much the nature of the now old-fashioned music-halls. Occasional dramatic performances were given, but tight-rope and acrobatic shows alternated with performing dogs. Abram sang here and Grimaldi mimed; its huge reservoir facilitated the production of 'nautical dramas,' and long gave it a repute as the aquatic theatre. The building which was to become the Lyceum was erected in the same year as Sadler's Wells, but the first licensed dramatic performances given in it were those of the Drury Lane Company, after the destruction of their house by fire. The Surrey Theatre specialised in equine and canine dramas. The Olympic Pavilion opened in 1806 under a licence allowing equestrian performances, pantomimes and the like. The Adelphi, built in the same year, but then known as the Sans Pareil Theatre, produced entertainments and burlettas. In 1819 the Adelphi opened [31]; its bill of fare was a hotchpotch of delights—lurid melodramas, varied with conjuring tricks, musical glasses, dissolving views, and performing elephants. There were nearly half a dozen other minor theatres that were similarly and very profitably employed.[32] By the Act of 25 George II. the legitimate drama was even more strictly confined to the 'patent' theatres than the earlier Act—that of 10 George II. The minor theatres, whenever they gave any dramatic entertainments, did so at some risk of infringing this Act; and in order to evade the law such entertainments were liberally interlarded with dance, music, and show.[33] The minor theatres were very popular, and the steady economic pressure they kept up on the two theatres royal by their competition gradually made the latter hitch their wagon to the sublunary double-star of pounds and popularity.[34]

It is the audience who ultimately determine the character and success of a play. 'Any people,' says Professor Brander Matthews, 'is likely to have at any period the drama that it desires, since it can only have the kind of play that it is willing to accept.'[35]

[31] In that year Scott sold the house, and the new management changed the name to the Adelphi.

[32] Many of these had now come to be completely forgotten, and even their traces have been lost. For a complete history of these, see Errol Sherson, *Lost Theatres of the Nineteenth Century* (1926).

[33] See prefatory observations to 'Fazio,' Milman's *Poetical Works*, vol. iii. p. 118 (1839).

[34] Some of the provincial theatres, which had come into existence now by one of the clauses of the Act of 25 George II., offered better chances to the poetic dramatists than the metropolitan stage. Several of Joanna Baillie's plays were successfully staged at Dublin and Edinburgh. Landor also contemplated sending *Julian* to Edinburgh Theatre. See Forster's *Landor*, vol. ii., p. 137.

[35] Brander Matthews, *A Study of the Drama*, p. 89; and also compare Sir Sidney Lee's remarks in connection with the production of Shakespeare on the modern stage, which have a general application to all poetic dramas: 'A great imaginative play, well acted, will not achieve genuine success unless the audience

They pay the piper and must necessarily call the tune. Georgian audiences were no longer representative of the nation. The Puritan prejudice against the theatre revived in the activities of the Low Church Evangelical Party, while the sensibility of the eighteenth century kept many more away. The usual theatre-goers of the age were the members of the *beau monde*.[36] They deemed it a distinction to be seen at a theatre by their compeers, and considered it fashionable to talk about a play. They were a drinking, swearing, gambling, racing lot. All their brain was in their 'boot and spur and hose,' while their discrimination lay entirely in their cellar. They were those whom Lamb had in mind when he wrote: 'These are they that fatten on ale and tobacco in a morning, drink burnt brandy at noon to promote digestion, and piously conclude with great bumpers after supper to prove their loyalty.'[37]

These beknighted and bestarred lords have been given a rather unenviable immortality in the pages of Wraxall.[38] These filled the boxes, while their footmen filled the gallery, and the 'pittites' were the bullies and swashbucklers of the town. The lobbies of the theatres were thronged with women of very dubious morals, and their conduct was utterly shameless. Scott, speaking of the contemporary theatre, says: 'No man of delicacy would wish the female part of his family to be exposed to such scenes; no man of sense would wish to put youth of the male sex in the way of such temptation. In London, if we would enjoy our most classical enjoyment, we are braved by vice on the threshold.'[39] Joanna Baillie[40] in one of her prefaces makes a similar complaint, while John Styles denounces the theatre as 'the immoral creature of an immoral audience.'[41] He attributes, not without some plausibility, the sloppy morals of the contemporary stage pieces to the degrading influence of the audience.

Disturbances at the theatre were frequent, and in these the occupants of the boxes took as large a share as those in other parts of the house. 'Bullies in the pit, like footmen in the gallery,

has at command sufficient imaginative power to induce in them an active sympathy with the efforts, not only of the actor, but of the dramatist' (*Shakespeare and the Modern Stage*, p. 46).

[36] See *London Magazine*, vol. i. (N.S.), p. 24.

[37] *John Woodvil*, act i., sc. 1.

[38] Wraxall, *Historical and Posthumous Memoirs* (Wheatley edition). Vol. v., p. 388ff, relates to the Prince of Wales (later George IV.); vol v., p. 33, to the Duke of Rutland; vol. iii., pp. 362–364, to Lord Surrey. In this connexion it would not be out of place to point out the scandalous relation between the Duke of York and Mrs. Jordan, the actress.

[39] Scott, *Essay on Drama*, p. 226.

[40] *Dramas*, vol. ii. (1836): 'To the Reader.'

[41] John Styles, *Essay on the Character and Influence of the Stage on Morals* (1807). See also Puckler Muskau's *Tour of a German Prince*, vol. iii., pp. 126–129.

seemed to have followed the occupants of the boxes in matters of dramatic taste, but they still regarded the actors as the lawful victims of their arrogance and insolence.'[43] In 1805, at a revival of Foote's *The Tailors*, the snips of London had to be cleared out of Drury Lane with the help of the military. In 1809, when Covent Garden was reopened and Kemble, responsible for the management, raised the prices, performances were disturbed for nearly seventy consecutive nights till the old prices were again restored.[43] During these riots pandemonium was let loose, and to the tumult of human voices was added the din of hornpipes, watchmen's rattles, and dustmen's bells. In an atmosphere so noisy, shameless and vulgar, the real art of the theatre could by no means thrive. The better class of minds, for obvious reasons, kept away from the theatre, where there was a nauseating display of shamelessness and profligacy.[44] To attempt to exhibit tragedy or high comedy to such an audience was a worse than useless waste of precious things upon proverbially unappreciating creatures.[45] The notorious apple-throwing incident on November 18 of the year 1806 makes it perfectly clear. 'When,' says Boaden, 'Mrs. Siddons was supplicating as Volumnia the conqueror her son to spare his country: when every eye should have been riveted to the scene, every ear burning with the pure flame of patriot vehemence, at such a moment an apple was thrown upon the stage, and fell between Mrs. Siddons and Mr. Kemble.'[46] On Kemble's protesting, a verbal reply was received that the apple was thrown at some disorderly females in the boxes. 'Debauchery, fashionable vice, evils of all kinds centred in these houses of amusement,' says Professor Nicoll, 'and the saner, soberer people, who might have aided toward the elaboration of a finer drama, were forced to keep themselves apart.'[47]

[43] *Cambridge History of Literature*, vol. xi., p. 261. This is further confirmed by the obsequious appeals to the audience in the prologues and epilogues of the contemporary plays. To take only one instance—an unacted play by Ireland, where the author appeals separately to each part of the house: see epilogue to *Mutius Scævola*.

[43] These are known as the 'O. P. Riots.' See Doran, p. 410.

[44] *Cf.* 'I am not remarkably pure or chaste, but to hear generous and pathetic sentiments, and to behold glorious and grand actions amidst the vulgar, hard-hearted language of prostitutes, and lobby-loungers, not only takes away all my pleasures by the widest contrast, but seizes me with the most painful and insuperable disgust' (Landor's letter to Southey, quoted by Forster, vol. i., pp. 137–138).

[45] *Cf.* 'Who would condescend to the drudgery of the stage, and enslave himself to the humours, the caprices, the taste or the tastelessness of the age?' (Medwin, *Conversations of Lord Byron*, pp. 128–129).

[46] Boaden's *Life of Kemble*, vol. ii., p. 428.

[47] *British Drama*, p. 302.

Two other powerful causes were also working at this time to check the freedom of the drama that was attempting to come into life. The first of these was the censorship. The institution was an old one. Sir Robert Walpole, that past-master in the art of political corruption, was responsible for the Act of 1737 (10 George II.), by which he sought to gag the free expression of political opinion through the medium of the stage. Of course, the Act asserted no new principle, but converted into legal power the customary authority hitherto exercised by the Lord Chamberlain. The ostensible object of the enactment was to prevent the morals of the people from being corrupted by libidinous writers for the stage, and to protect the Government from attacks of disaffected and disappointed people. The great political upheaval in France naturally heightened the nervousness of the Government in England during the closing years of the century. Consequently the censor—the guardian of public morals and the keeper of public conscience—set about nosing out sedition with the keenness and assiduity of a sleuth-hound; and everything that was deemed to be either kinetically or potentially revolutionary was suppressed with a vigour and energy worthy of a better cause.[48] Many plays were not permitted to be staged, notably Shee's *Alasco* and Miss Mitford's *Charles I.*, which latter is really written from the royalist point of view. In an age inspired by the revolutionary 'mantram' of equality, fraternity, liberty, and by the teachings of Rousseau, Paine and Godwin—when the finest imaginative spirits were nearly all steeped in these new ideas—the interference of the censor checked the free expression of one of the most vigorous aspects of national thought.[49]

If the stage had been free, and if other conditions had been favourable, these men would probably have turned with greater eagerness to dramatic writing. The growth of fiction and of periodical literature, and the existence of an enlightened public who could be reached without the help of the stage, turned men away into other channels of literary work. Of most of the great writers of the time this is perhaps true. Coleridge wrote no more dramas when he was disappointed in having his *Zapolya* staged; Shelley turned to lyrical poetry after *The Cenci;* Wordsworth stopped with *The Borderers* after a similar disappointment; Scott, having written a few plays, turned to novels; Miss Mitford, in spite of her comparative success, found writing for magazines a more dependable profession than the precarious life of a

[48] The passages expunged from Wade's *The Jew of Arragon* furnish the most convincing proof of this.

[49] The licensor's permission to stage Knowles' *Caius Gracchus* at Drury Lane was obtained with some difficulty. See *Genest*, vol. ix., p. 231.

dramatist. Milman was a professor first, and a dramatist only from love and ambition. Maturin found a clergyman's cassock more warming than the threadbare suit of the playwright.[50]

But the censor was not the only man that the young aspiring dramatist had to reckon with. The theatrical managers, usually the star actors of the time, were also formidable persons in those days. They enjoyed a monopoly of the stage. But the licensed houses were under the same system of management or mismanagement. The dramatic critic of the *London Magazine* of the year 1820 writes in the February number that, 'the actors being purveyors in chief of the public pleasures, are become the natural judges of those who furnish the supplies; and as supreme arbiters, they accept or reject according as it may seem advantageous to their own interests, that is to say, agreeably to the prevailing fashion. Novelty—perpetual novelty, being at once a stimulant and appeaser of jaded appetitite, must be had; and this insatiable demand, thus pushed to the last excess, will no longer permit either waiting for the slow but rich fruits of talent, or refusing the raw and poor productions of dulness and inexperience.' Writer after writer leads this attack against managerial despotism born of the monopoly.[51] Scott, writing comparatively mildly, points out the practical difficulties of the manager in discharging his public duty well, even when he is possessed of the finest discrimination: 'Allowing the managers of the two theatres to be possessed of the full discrimination necessary to a task so difficult, still the number of plays thrust upon their hands must prevent their doing equal justice to all; and must frequently deter a man of real talents, either from pride or modesty, from entering a competition clogged with delay, solicitation, and other circumstances.'[52] 'And other circumstances'—do we not read in the expression something 'more than meets the ear'?[53] It appears to be true, as alleged by so many people, that backing, other than

[50] James Sheridan Knowles, perhaps the most successful playwright of the age, is said to have obtained for six plays written between 1820 and 1832 1,100*l.* only, and for eleven plays between 1832 and 1843 3500*l.* Many of these plays were amongst the greatest successes of the time. See *Life of J. S. Knowles*, by his son R. B. Knowles, p. 99.

[51] See second epilogue to Godwin's *Faulkner*, by John Wolcot:

'Though small indeed the empire of the boards,
Stage-managers are arbitrary lords.'

Of Kemble, who was at that time manager of Drury Lane, Lamb says that 'he had made up his mind early that all the good tragedies that could be written had been written, and he resented any new examples' (*Old Actors*: Elia).

[52] *Essay on Drama*, p. 225.

[53] Byron writes of his resolution not to compose dramas for the stage, 'seeing how much everybody that did write for the stage was obliged to subject themselves to the players and the town' (letter to Murray, *Letters and Journals*, v., p. 223).

that of merit, was necessary for success with the managers, though Spencer sneers at the

> Authors who blush to throw their pearls before the swine;
> Vain of the triumphs of rejected plays,
> And talents never mortified by praise.[54]

Still there is enough room for doubt whether the acceptance by Drury Lane of his own comedy *Urania* [55] was determined by its merits, or by the fact that he was a descendant of the noble Duke of Marlborough, and an intimate friend of his Royal Highness the Duke of York. There cannot be any doubt that the position of the dramatist seeking the aid of the manager was, more frequently than not, humiliating. Thomas Herbert, writing about the year 1825, complains bitterly:

> For should you fifty pieces write
> With talent e'en Shakespearean bright,
> Lest petticoat interest you make,
> To bias some old shrivelled rake,
> Believe me, but be not dismayed,
> I fear not one will now be played [56]

Though some of the bitterness may probably have been due to the rejection of his own plays by the two theatres, yet the accusation made is, I believe, substantially true. The anonymous author of *Pætus and Arria* (1809) also declares it to be his firm conviction that no play, however excellent, has any chance of acceptance if it is 'unaided by power, or unrecommended by interest.' [57] Joanna Baillie, in her advertisement to the first volume of her plays published in 1836, tells a rather melancholy tale.

> The greater number of the dramas contained in the following volumes [says she] have been written many years ago; none of them recently. It was my intention not to have them published in my lifetime; but that, after my death, they should have been offered to some of the smaller theatres of our metropolis, and thereby have a chance, at least, of being produced to the public with the advantages of action and scenic decorations, which naturally belong to dramatic compositions. But the present circumstances connected with our English Theatre are not encouraging for such an attempt; any promise of their soon becoming so is very doubtful; and I am induced to relinquish what was at one time my earnest wish.

The greater romantic poets, at any rate some of them, wrote their plays with the desire of seeing them acted by particular actors or

[54] Prologue to *Urania*.
[55] Drury Lane, January 22, 1802.
[56] Thomas Herbert, *A Nostrum for Theatrical Insipidity*.
[57] Letter to Thomas Sheridan, prefixed to the tragedy of *Pætus and Arria*, p. iv.

actresses of the time, in spite of their apparent apathy towards the stage.

This situation was further aggravated by the long runs that had now become customary. The elaborate mounting of plays now in fashion made the staging of a play expensive; and consequently a manager had to think several times over before engaging to stage a new play. Thus the managers consulted their own prudence and narrowed desire, if they had any, for new ventures within the compass of assured profits. Besides, chronic mismanagement and threatened bankruptcy left the managers little spirit of enterprise which is essential for giving a lead, the result of which is not always certain.

Absence of disinterested criticism, that so often acts as a check on the theatre and advances literary taste, further accelerated the rapid decline of the stage. Leigh Hunt,[58] of course, raised his voice early in the nineteenth century, but his criticism was directed more on the manner of the actors; but still his single voice, later augmented by Hazlitt's, was lost in the tumult of the vulgar applause of an audience that had no idea of drama as an art. So it is that Dr. Syntax laments:

> As wits and critics now are known
> Who hash up nonsense for the town
> And in the daily columns show
> How small the sum of all they know.[59]

Thus the stage was left to the depredations of mountebanks,[60] providing a feast of sound and colour, mingled with the antics of performing animals.[61] The best stock characters of the popular stage pieces amount to nothing more than

> Foreign bravo, prince or count,
> Or some gaudy foreign belle
> Whose frailties would a volume swell.[62]

Some half-hearted efforts were made by Kemble, and later about the 'thirties by Macready[63]; but they were not enough to stem the onrush of spectacles and pantomimes, with something of the

[58] Leigh Hunt's preface to the *Dramatic Essays*, edited by Archer and Lowe.

[59] William Combe, *Tour of Dr. Syntax*, p. 223: see also Sheridan's sneers at these professional puffers and their methods in *The Critic*, i., 2 (*The Plays of Sheridan*, George Routledge & Sons, p. 157).

[60] The pantomime *Shakespeare versus Harlequin* of 1820 sums up the whole situation, but in reality it is Shakespeare and poetic drama that are expelled.

[61] In *Hyder Ali* (Drury Lane, October 17, 1831) 'a whole menagerie of animals, including a boa-constrictor and an elephant, figured in the scene' (*Life of Macready*, by W. Archer, p. 83); and Payne in the Prologue to *Brutus* (1818) laments, 'In Shakespeare's halls shall bears and dogs engage?'

[62] Thomas Herbert, *A Nostrum for Theatrical Insipidity*.

[63] Browning's letter of 1843 to William Archer, quoted on p. 136 of *Life of Macready*, by W. Archer.

opera or the oratorio thrown in, such as we find in the popular plays of the time.

Thus alienated from the stage, the creative spirits of the age turned to lyric and narrative poetry, to fiction, to closet plays, to journalistic writings, and such other channels as were now left open to them, for the articulation of their ideas.[64] Summing up the situation, Dr. Doran concludes: 'Huge houses, high prices, exorbitant salaries, soon brought the British drama to grief in the patented theatres'[65]; and Tomkins, writing in 1839, when the degradation of the stage had nearly reached the lowest level, attempts to point out the way to regeneration: 'Remove the monopoly; let the intellectual moral drama be performed anywhere, let capital have free sway, let the play be considered the first thing, the actors the second; the costume the third, and the scene-painter, the carpenter, the musician, fourth, fifth, and sixth.'[66]

The 'patent' theatres, as the only providers of public amusement, were obliged to keep a company of actors for each variety of play—tragedy, comedy, opera, pantomime. This omnibus system, as it is conveniently called, entailed ruinous expenditure, as a part of the company was always idle and had to be paid even when not earning any profits for the theatre. The result was that manager after manager went into bankruptcy and ruin down to the time of Macready, who himself fared no better. Thus was closed a chapter of the history of the English theatre which under more favourable auspices might have been very different—nay, might even have recaptured the past glories of 'the spacious times of great Elizabeth.'

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[64] The situation was further aggravated because the law of copyright, as it then stood, did not consider the staging of a printed play without the permission of its author any invasion on his property. See Milman's prefatory observations to 'Fazio,' *Poetical Works*, vol. iii., p. 119 (1839); see also Byron, *Letters and Journals*, v., p. 130.

[65] Doran, p. 414.

[66] F. G. Tomkins, *Essay on the Present State of Dramatic Art and Literature*, p. 21.

'THE PLAYS OF SEAN O'CASEY'

A Reply

Dr. Starkie in Dublin is in literature what one would call a toff. He is a professor in Dublin University, a director of the Abbey Theatre, and a big thing in the Dublin Drama League. These powers have laid their hands on his head, and he wears a stole of authority from the literary apostolate and epistolate of Dublin, so that everything he writes is stamped with a scholarly image and superscription.

Tired but proud of the tidy literary fold of Dublin, he has gone out to instruct into order and quietness some who decline to bleat with his baa-lambs. He starts his little exercises with a criticism of the plays of the celebrated workman dramatist Sean O'Casey.

We all must admire Dr. Starkie for struggling towards new values and cheer him as he starts on a wonderful involution as a critic. But he must learn to classify his ideas, and work his criticisms up into a synthesis. Though his movements are often jerky and sometimes vertiginous, he shows many fine attitudes as he skips la, la, la, la over the pages of *The Nineteenth Century*.

Dr. Starkie is a director of the Abbey Theatre that was concerned with the rejection of *The Silver Tassie*, and since he wrote about the play in this Review, it is natural that I should be interested to show that upon examination every one of his criticisms is empty-headed.

In his official criticism Dr. Starkie said that 'in order to prepare his mind for *The Silver Tassie* he read over again the three published plays of Sean O'Casey.' He read over again three old plays in order to prepare his mind for a new one! He thought that he must read *The Silver Tassie* cautiously, carefully and thoroughly, so he sat down to read, not the new play, but the three old ones. What is one to think of a critic who thinks that the best way to prepare his mind for a new play is to sit down and read three old ones? This action of his thunders out the suggestion that, if at all possible, a flaw would be found in the new play But the silliness of the preparation got a shock, for, having read the three other old plays, he finds in the new one 'a new depar-

ture, a new art, a new technique.' But then he does a worse thing. After priming his criticism with incapacity by reading three old plays to understand a new one, he paints his criticism with incapacity by criticising the new departure, the new art, the new technique, of the new play, by the old manner, the old art, and the old technique of the old plays! Dr. Starkie says that 'the fault of *The Silver Tassie* is that it is too vague and indefinite.' He does not say where it is vague and where it is indefinite. He hints at the last two acts. There is not a docker, who is not a duffer (the percentage of duffers among dockers is low, and far less than the percentage of duffers among dons), who would fail to understand a single sentence or fail to feel a single emotion that is spoken or manifested in any one act of the play.

He says, writing about the second act of the play, 'It is difficult to imagine such scenes when we read the play.' Well, if he cannot, he has lost all that was left of his imagination. He says, 'Poor Harry has not half the personality of poor, pale little Mollser sitting outside the tenement in *The Plough and the Stars*.' Best to tell the Doctor that Harry has not any of the personality of poor, pale little Mollser sitting outside the tenement simply because he was not meant to have it. He says: 'The prayer-meeting, Bible-quoting Susie of the first act evolves into a frivolous V.A.D., but we are not shown any gradual transformation.' If Dr. Starkie had read the new play as often as he says he read the old ones, he would see that no gradual change is shown because no change takes place. Susie can show a leg in the first act as well as she can in the last. And if he had read the new play as often as he says he read the old ones, he would see that her sturdiness and decision in the first act function as strongly again in the third act of the play. And if he imagines that in the music of a jazz band a V.A.D. would hear only the moans of many patients, then one day Dr. Starkie may become a plausible critic, but he will never be a playwright. Writing of the second act, he says, 'The crude realism of the words does not suit the chant.' What does he mean? Is not one word as real as another? Is there a different kind of realism in different words? Or the same kind of realism in different words? Or a different kind of realism in the same words, or what? He says, 'The second act is a queer, fantastic scene.' The act is built up of words, and if the words be crudely realistic, how can the act be queer and fantastic? He says again in one place that 'it is hard to imagine such scenes when we read the play,' and in another place that 'the author has introduced a grotesque chanting in doggerel verse that haunts the imagination.' And this is the critic that says O'Casey in this play is vague and indefinite, and must learn to classify his ideas! In criticism it seems that Dr. Starkie does not know his right

hand from his left. Again, 'The excellent first act, which suggests *Juno and the Paycock*.' Excellent, mind you, because it reminds him of 'Juno'; the rest of the play not so good because it does not, mind you, remind him of 'Juno.' He does not like the new play because it is not like the old ones. The change was nothing to O'Casey, but it has huddled Starkie into corner-cowering criticism.

Starkie says again, 'He makes his opinions and theories fit into the framework of the bourgeois play, and thus he is not an innovator in drama . . . He is still dominated by the well-made play.' Go on again, Dr. Starkie. 'In *The Silver Tassie* he has left behind him the plays of a former manner and is groping towards new dramatic values.' In the *Irish Times* he called this new manner 'a technique touched with genius and standing out above all.' He cancelled his criticism before, and he can cancel it again. How can O'Casey be still dominated by the well-made play if he has left behind him the plays of a former manner? How can he be groping towards new dramatic values if these new dramatic values are touched with genius and stand out above all? And the fact that Starkie read over again the three old 'well-made plays' in order to prepare his mind for *The Silver Tassie*, and the fright that the new dramatic values of this play gave him, show that it is the critic rather than the dramatist that is dominated by the well-made play.

Dr. Starkie says again, 'O'Casey has not lost any of his power in writing or his vivid imagination.' Will Dr. Starkie tell me for my own good what I have lost? Perhaps the will or the stamina to transform a play into a synthesis. Or is it that O'Casey has 'left the scenes of his impressionable years and has ceased to see intensely'? This opinion of Dr. Starkie, as well as being a Yeatsian echo, is a puny prod at the play when we remember that the critic spent his novitiate in the comprehension of new values by the hot-blooded study of old ones. But it is more than this—it is a mean and underhand method of trying to shoulder a prop under his opinions. In the first place, it would be impossible to lose in two years the impressions of forty; in the second place, a good deal of those two years has been infused into the production of my old plays, and the rest of the time has been spent in the writing of *The Silver Tassie*, so that about a lunar month remains in which I must have lost the 'power to see intensely.' At its worst there seems to be something spiteful in this contention; at its best it stands adjutant to the opinion of Mr. Yeats. There would be something in it if all other opinions stood in the porch with Starkie's; but, if he wishes, I will send him opinions given by those as clever as he, as Irish as he, far more experienced in the drama than he, which will tell him, saucy to his face, that the

intensity and reality of the two last acts of the play endure to the end. Let Starkie try to hit it off fairly, without imagining that others must be as he himself is—able to see only the things in his own and his neighbour's garden. And if Starkie bets, and he is game, I will take a bet with him that he himself during his life has spent more of his time out of Ireland than I have. The fact is that Starkie's *leit-motif* of separation from Ireland is a veil over the conceited opinion that there must be a loss in the wider separation from that little Irish league of letters who have joined hands and dance continually around the totem pole of their own opinions.

It would be a weary thing to climb over the whole pile of his opinions, but there is one that Starkie has thrown in which deserves to be lifted out and laughed at. He says: 'O'Casey is not the dramatist of a new nation full of hope in its future progress. In this respect he is a contradiction to the optimistic spirit which has prevailed owing to the wise government of Mr. Cosgrave and his colleagues . . . Let us not see too many of such plays, for in an epoch [great word, Starkie !] of reconstruction all our energies should be set upon creating a new country.'

This smells of courage, resolution, and determination. Starkie wants things done. He wants plays of hope, plays of purity, plays of progress for his dear old country; plays that will play their part in the present epoch of reconstruction; plays to buck them up and give them peace. The Irish dramatist of the future will have to take his tips from the Irish Government. He can see everything, but the Government will show him what to look at. And Starkie thinks that this is dramatic criticism. You are a politician, my dear Starkie. Stand for the Dail, and, if elected, you will learn more quickly of the things that belong unto politics than you will ever learn of the things that belong unto the drama.

SEAN O'CASEY.

SOME GLIMPSES OF THE POETS AT WORK

THE composition of poetry has always been a mystery, and something of a halo surrounds the poets. They are the seers and prophets who have peered into the future, the 'hierophants of an unapprehended inspiration,' the makers of sweet music, the weavers of dreams. The plain man has felt a seemly reverence in the presence of those on whom is bestowed the power to embody in rhythmic utterance words that heal or words that burn. The arcana long remained hidden behind a veil; the uninitiated were kept waiting outside the holy of holies; the crowd were excluded from the hallowed rite.

Classical writers, though they might reveal something of the ardours of the poet's task, did not attempt to analyse the process. The typical mediæval poet, often so little concerned with his own personality that he left his work without a name, made no effort to disclose the secret. Not until the eighteenth century do we obtain with any frequency glimpses of the hidden workings of the poet's mind. The Augustans were too profoundly imbued with the conception of poetry as an aid to civic virtue to waste their energies upon such a problem. Pope might lay down laws for poets and critics, he might briefly comment on his choice of theme, but he was silent about the inner mysteries of his craft. In the course of the century, however, the poets turned more and more to self-analysis, and in so doing found themselves confronted among other riddles of their microcosm by the enigma of artistic composition. The writers of the century which followed grew more and more interested in the question. Some of them tried to elucidate what happened when a poem was written, and others described their method of working or the sensations and emotions connected with the act of composition. Sometimes the attention of the poet's friends was also aroused, and they have made records of their observations and conversations, which throw still more light on the subject.

There is a memorable passage in *The Task* in which Cowper speaks of the wrestling with elusive words that goes on in the poet's mind until he has found the exact phrase which he is seeking. We are likewise shown how he must labour to arrange

his words in such a manner as to place each in its most favourable position and secure the maximum effect. Yet arduous as the toil might be, it brought happiness to Cowper, not merely the joy of artistic achievement but also the temporary oblivion of life's agony:

> There is a pleasure in poetic pains
> Which only poets know. The shifts and turns,
> The expedients and inventions multiform
> To which the mind resorts in chase of terms
> Though apt, yet coy, and difficult to win,
> To arrest the fleeting images that fill
> The mirror of the mind, and hold them fast,
> And force them sit, till he has pencilled off
> A faithful likeness of the forms he views;
> Then to dispose his copies with such art
> That each may find its most propitious light,
> And shine by situation hardly less
> Than by the labour and the skill it cost,
> Are occupations of the poet's mind
> So pleasing, and that steal away the thought
> With such address from themes of sad import,
> That, lost in his own musings, happy man!
> He feels the anxieties of life, denied
> Their wonted entertainment, all retire.
> Such joys has he that sings.

After reading this passage one is not left with the impression of poetry as a sort of ecstasy. Cowper remains sober and self-possessed, his intellect calm and alert, and whatever the little problems of arrangement that may present themselves, his occupation seems an agreeable pastime rather than an intense activity.

In this respect Blake forms a great contrast to Cowper. He wrote in a state of rapture, oblivious of all about him. For him all inspiration came from God, and he himself was but the medium or recording agent. His visions came and went suddenly; they were beyond control or calculation. No doubt without knowing it, he had revolved in his mind the thoughts which afterwards leapt to their positions in his verse, but the process was unconscious. Hence his firm conviction that his work was the utterance of God. It follows naturally from his attitude that he made no attempt to plan a poem or to consider its effect. The ardours of composition were unknown to him; all he had to do when the supreme hour came was to take his pen and write as the spirit dictated, and as soon as the vision faded he made no effort to continue of his own accord. A genius so peculiar was obviously unsuited to analyse the process of composition. No doubt if he had been asked about the matter, Blake would have answered that to write poetry was so simple that it demanded no comment.

Though of a temper differing vastly from that of the mystic seer, Burns was not given, any more than he, to accounting for his sensations before, during and after composition. He has, however, described his usual procedure. In a letter to Mr. Thomson in September, 1793, he says:

> Until I am complete master of a tune, in my own singing (such as it is), I can never compose for it. My way is: I consider the poetic sentiment correspondent to my idea of the musical expression; then choose my theme; begin one stanza; when that is composed, which is generally the most difficult part of the business, I walk out, sit down now and then, look out for objects in nature around me that are in unison and harmony with the cogitations of my fancy, and workings of my bosom; humming every now and then the air, with the verses I have framed. When I feel my muse beginning to jade, I retire to the solitary fireside of my study, and there commit my effusions to paper; swinging at intervals on the hind-legs of my elbow-chair; by way of calling forth my own critical strictures, as my pen goes on.

Thus Burns's lyrics are inextricably bound up with song, the song of the Scottish countryside. The rhythm of these ancestral melodies beat out a pattern in his brain, and even his corrections were made to the rhythmic swaying of his chair. The writing of *Bonie Lesley* throws a little more light on Burns's method of composing. A Mr. Baillie and his two daughters, one of them called Lesley, visited the poet on their way to England. Attracted by Lesley, Burns escorted the party fifteen miles on their way and then turned homewards. The name Baillie brought to his mind the old ballad of *Lizzie Baillie*, and as he rode along, the tune associated itself with the emotions of the moment and *Bonie Lesley* came into being. This intimate connexion of Burns's poems with song explains their tunefulness, while the fact that so many of them were written in the open air accounts for his use of Nature as a background. Nature was not the main theme, but it produced in him that feeling of harmony which led to the crystallisation of his thoughts in poetry. The birch and the hazel sway while the cushat croons, the hawthorn breathes its fragrance as the lark and the mavis pour forth their song, and the flowers nod their dewy heads to the murmuring of the burn through the green shaw.

When we turn to Wordsworth we have an abundance of information about his way of composing. There is first of all the well-known passage in Hazlitt's essay on *My First Acquaintance with Poets*, where he tells us that 'Wordsworth always wrote (if he could) walking up and down a straight gravel-walk, or in some spot where the continuity of his verse met with no collateral interruption.' And in Wordsworth's own works, as we should expect from one who devoted so many years to analys-

ing the growth of his powers, there are many passages which show his interest in the process of writing poetry. In the fourth book of *The Prelude*, which describes Wordsworth's frame of mind after his return home from Cambridge for the vacation, we have a picture, delightful in its frank intimacy, of the poet at work. In accordance with Hazlitt's testimony, he is composing as he walks along a country road. Now and again he pauses, for the thoughts will not clothe themselves in the shape that he desires. His faithful dog halts with him, puzzled by these interruptions, and warns his master of the approach of strangers, lest they, seeing his unusual mien, should think him demented:

> When first
> The boyish spirit flagged, and day by day
> Along my veins I kindled with the stir,
> The fermentation, and the vernal heat
> Of poesy, affecting private shades
> Like a sick Lover, then this dog was used
> To watch me, an attendant and a friend,
> Obsequious to my steps early and late,
> Though often of such dilatory walk
> Tired, and uneasy at the halts I made.
> A hundred times when, roving high and low,
> I have been harassed with the toil of verse,
> Much pains and little progress, and at once
> Some lovely Image in the song rose up
> Full-formed, like Venus rising from the sea;
> Then have I darted forwards to let loose
> My hand upon his back with stormy joy,
> Caressing him again and yet again.
> And when at evening on the public way
> I sauntered, like a river murmuring
> And talking to itself when all things else
> Are still, the creature trotted on before;
> Such was his custom; but whene'er he met
> A passenger approaching, he would turn
> To give me timely notice, and straightway,
> Grateful for that admonishment, I hushed
> My voice, composed my gait, and, with the air
> And mien of one whose thoughts are free, advanced
> To give and take a greeting that might save
> My name from piteous rumours, such as wait
> On men suspected to be crazed in brain.

In this description we have a glimpse of an almost feverish state which is suddenly dispelled when the hidden thought has with surprising speed emerged in words of perfect fitness and beauty. Elsewhere, however, we do not witness in Wordsworth this chafing of the spirit, but rather a mood of harmonious meditation. As the poet slowly paces to and fro outdoors amid his beautiful surroundings, the words seem to come almost of themselves:

> Most sweet is it with un-uplifted eyes
> To pace the ground, if path there be or none,
> While a fair region round the traveller lies
> Which he forbears again to look upon;
> Pleased rather with some soft ideal scene,
> The work of Fancy, or some happy tone
> Of meditation, slipping in between
> The beauty coming and the beauty gone.

This contemplative tranquillity is surely the more characteristic of Wordsworth. The 'shadowy moonshine of memory' plays upon some place once visited and transforms it into a visionary scene, in vacant or in pensive mood he recalls a song heard long before or flowers swaying in the breeze, and in this happy state he loves

> To sit without emotion, hope, or aim,
> In the loved presence of his cottage-fire,
> And listen to the flapping of the flame,
> Or kettle whispering its faint undersong.

At such a blessed hour the discords of life are hushed, a great peace descends, and a visionary power akin to that of Blake is given.

> The breath of this corporeal frame
> And even the motion of our human blood
> Almost suspended, we are laid asleep
> In body, and become a living soul:
> While with an eye made quiet by the power
> Of harmony, and the deep power of joy,
> We see into the life of things.

With a singular felicity Wordsworth has related how it was his wont to store up his memories until an inspired visitation such as is described in the above lines came to him. It was not his practice to make 'a present joy the matter of a song,' but he laid it aside in his treasure-house and passed to other concerns. Yet he was never allowed to forget its existence. Now and then, as if moved by some invisible magic hand, the door would open and the light of the jewel would shine forth upon his eyes once more. Or, as he puts it in *The Waggoner*:

> Nor is it I who play the part
> But a shy spirit in my heart
> That comes and goes—will sometimes leap
> From hiding-places ten years deep;
> Or haunts me with familiar face,
> Returning, like a ghost unlaid,
> Until the debt I owe be paid.

Coleridge, so unlike Wordsworth in temperament, differed from him also in his method of composition. His impetuous

nature, so Hazlitt tells us, found pleasure in composing as he walked over uneven ground, or broke through the straggling branches of a copse. Yet in *Frost at Midnight* we see him at work under conditions remarkably similar to those described by Wordsworth in one of the passages quoted above. The silence of the moonlit, frosty night is broken only by the occasional cry of the owl; all have retired to rest, the infant slumbers peacefully at the poet's side. Human activities are stilled; even the flame of the fire is motionless.

> Only that film, which fluttered on the grate,
> Still flutters there, the sole unquiet thing,

and gazing at it, the poet sees in it a companionable form, a symbol of his own restless mind.

In connexion with *Christabel* Coleridge made some interesting remarks on the conditions which he found favourable to composition. It is in *Table Talk* that he discusses the possibility of completing this unfinished masterpiece. As late as 1833 he still had the design of the poem clear in his mind, for he had worked out the plan of the first two cantos before setting to work. He had some misgivings about his ability to carry on with equal success the execution of the very subtle and difficult idea. Nevertheless, he said, 'I could write as good verses now as ever I did, if I were perfectly free from vexations, and were in the *ad libitum* hearing of fine music, which has a sensible effect in harmonising my thoughts, and in animating and, as it were, lubricating my inventive faculty.'

From what has been said of the poetry of Wordsworth there gleams forth the conception of poetry as the result of an inspired mood rather than as the product of a skilful and conscious artist. It is obvious that Coleridge also, even if he sometimes carefully planned a poem, had to wait for the happy mood when inspiration came unsought. In his penetrating study of Coleridge Professor J. L. Lowes has shown how the recollections of the poet's reading and of his own experience begot images which blended together by some subtle alchemy in the well of memory until they emerged in radiant perfection. Shelley's conception of poetry was akin to that of his two contemporaries. In *The Defence of Poetry* he maintains that the poet cannot say at any given moment that he will sit down and write, for 'poetry is not like reasoning, a power to be exerted according to the determination of the will . . . the mind in creation is as a fading coal, which some invisible influence, like an inconstant wind, awakens to transitory brightness; this power arises from within, like the colour of a flower which fades and changes as it is developed, and the conscious portions of our natures are unprophetic either of

its approach or its departure.' The finest passages of poetry are, in Shelley's opinion, not those produced by labour and study, but those in which the poet is a mere channel through which the divine beauty is poured. While one cannot agree with Shelley that the poet is merely passive, it is significant that he should in his poetry so often conceive of himself as a lyre upon whose strings the invisible breath of inspiration plays. Obviously the mind of such a poet cannot ' account to itself for the origin, the gradations, or the media of the process.'

In Shelley's letters we perceive something of the fierce intellectual fire that burnt within him. So intense was his thinking that it seemed almost to consume him. Poetry came as a relief, for it demanded contemplations that lifted him above ' the stormy mist of sensations which were his habitual abode.' Although he disclaimed any ambition to loom large on the horizon of the contemporary literary world, yet he knew himself capable of great things. It was only bodily strength that was lacking. As he expressed it to John Gisborne, ' My mind is like an overworked race-horse put into a hackney-coach.' On another occasion he wrote to Leigh Hunt in the same vein : ' I am full of thoughts and plans, and should do something, if the feeble and irritable frame which incloses it was willing to obey the spirit.' At the beginning of 1822 we find him complaining : ' My faculties are shaken to atoms, and torpid. I can write nothing '; and four months later he remarks that the occupation of a few mornings in composition has shaken his nerves. How singular a contrast in the facility with which he wrote is Swinburne. As a rule, with him to conceive was to execute. Perhaps the only exception was *A Ballade of Dreamland*. About this poem he wrote in 1877 to Sir Edmund Gosse : ' That ballade . . . is about the only lyric I couldn't do straight off the minute I wanted—the verses jibbed like horses new to harness, and wouldn't come up to the rhymes all right—so after half-an-hour's pulling at them I went to bed in a rage—dismissed all thoughts of verses, and woke next morning all right and went and wrote the thing off when I got up exactly as it stands.' However, the ease with which Swinburne usually wrote was often the cause of his undoing, betraying him as it did into a fatal fluency. Shelley, on the other hand, won rare treasure by his struggles, but the cost to him was great. It is but seldom in his letters that he betrays his sufferings. Now and then, however, the strain is too much even for his tough will. Occasionally we can perceive that a little sympathy might have worked wonders. For lack of it he sometimes fell into a mood of indifference in which he was content ' if the heaven above were calm for the passing moment.' How illuminating is the passage in a letter to Miss Clairmont at the

end of 1821: 'I am employed in nothing. I read—but I have no spirits for serious composition—I have no confidence, and to write in solitude or put forth thoughts without sympathy is unprofitable vanity.'

A solitary Shelley was, and apart from a few friends, not all of whom fully understood him, a solitary he remained. In Trelawny's pages we have a memorable picture of his dreamy reveries. We see him an unwilling guest at one of Byron's parties. Mute he stands there. His senses closed to the petty gossip about deaths, marriages and elopements, he takes refuge in his own meditations, and at the first opportunity, like some wild creature, he rushes along the Lung'Arno to his lonely den. Shelley generally composed in the open air, in a boat, under a tree, or on the bank of a river. As he explained to Trelawny: 'In composing one's faculties must not be divided; in a house there is no solitude: a door shutting, a footstep heard, a bell ringing, a voice, causes an echo in your brain and dissolves your visions.' Trelawny objected that distracting noises were to be heard out of doors also—the rushing of the river, the chattering of the birds, and the bellowing of the cattle. But Shelley replied that the river flowed by like the passing of Time, and all these sounds blended and soothed; only Man was discordant, a universal torment. '"There was," he said, "an undivided spirit which reigns abroad, a sympathizing harmony amongst the works of Nature, that made him better acquainted with himself and them."' Hence Shelley's passion for lonely places. The beautiful cities of Italy, with their churches and palaces, their paintings and sculpture, had no sway over him. Rising early, he would soon betake himself to the nearest river, lake or seashore, or, failing these, to the nearest pine wood, there to read and meditate till evening. In this way the splendours of sky and earth, the rhythm of the racing cloud, the murmurs of wind and wave, are woven into Shelley's poetry.

Trelawny has given a vivid description of how he once found Shelley composing in his solitary lair. On a brilliant spring morning he set out from Pisa along with Mrs. Shelley in search of the poet. After driving for a few miles, they left the carriage and walked to the woods where they supposed him to be. Exhausted by the heat, Mrs. Shelley remained behind while Trelawny continued the quest. In vain he made the pine trees echo with the poet's name; only the scared herons and water-birds, rising from the stagnant pools, answered his voice. However, an old man who was evidently familiar with Shelley's habits offered to guide Trelawny to him. After a while they saw a hat and books and papers scattered about, and, pointing to a deep pool of dark glimmering water, the old man exclaimed, 'Eccolo!' 'The

strong light streamed through the opening of the trees,' Trelawny goes on.

> One of the pines, undermined by the water, had fallen into it. Under its lea, and nearly hidden, sat the Poet, gazing on the dark mirror beneath, so lost in his bardish reverie that he did not hear my approach. There the trees were stunted and bent, and their crowns were shorn like friars by the sea breezes, excepting a cluster of three, under which Shelley's traps were lying; these overtopped the rest. To avoid startling the poet out of his dream, I squatted under the lofty trees, and opened his books. One was a volume of his favourite Greek dramatist, Æschylus—the same that I found in his pocket after death—and the other was a volume of Shakespeare. I then hailed him, and, turning his head, he answered faintly,
>
> 'Hollo, come in.'
>
> 'Is this your study?' I asked.
>
> 'Yes,' he answered, 'and these trees are my books—they tell no lies! . . . You are sitting on the stool of inspiration,' he exclaimed. 'In those three pines the weird sisters are imprisoned, and this,' pointing to the water, 'is their cauldron of black broth. The Pythian priestesses uttered their oracles from below—now they are muttered from above. Listen to the solemn music in the pine-tops—don't you hear the mournful murmurings of the sea? Sometimes they rave and roar, shriek and howl, like a rabble of priests. In a tempest, when a ship sinks, they catch the despairing groans of the drowning mariners. Their chorus is the eternal wailing of wretched men.'

The poem upon which Shelley was engaged was that which he sent with a guitar to Jane Williams, and in it he embodied the thought that the wood of which it was made, like the trees amid which Trelawny found him, echoed the manifold harmonies of Nature and gave utterance to them in sweet music. Trelawny's account also tells how he picked up a fragment of the poem but could only decipher the first two lines:

> Ariel to Miranda:—Take
> This slave of Music.

The appearance of the manuscript suggested the feverish haste with which the lines had been penned and then altered time after time. 'It was a frightful scrawl,' says Trelawny, 'words smeared out with his finger, and one upon the other, over and over in tiers, and all run together "in most admired disorder"'; it might have been taken for a marsh overgrown with bulrushes, and the blots for wild ducks.' To Trelawny's comments on this Shelley replied that when his brain became heated with thought it soon boiled and threw off images and words faster than he could skim them off. It was later, when his mind was cool, that he revised his work and out of the rough sketch made the finished drawing.

Although Trelawny deals more fully with Shelley's methods of composing, he also turns the searchlight on to Byron. At the time when he knew the two poets in Italy, both of them were

leading a frugal, almost an ascetic life, even if the routine was different. It was Byron's practice to rise about noon and then while away the time until three, when he would mount his horse and saunter along the road, usually the same each day, to an inn. Returning home at the same slow pace, he would dine sparingly at seven, visit Count Gamba and his family at nine, and then sit up reading or composing until two or three in the morning. The afternoon ride was devoted to meditation upon what he had written or was about to write. Apparently the regular rhythm of the horse's movements helped Byron to find the words which he had sometimes sought in vain the night before. On one occasion when Trelawny accompanied him Byron said, after they had trotted a mile or two: 'I wrote thirty-five lines to *Don Juan* last night, or rather this morning; was stopped for a rhyme. It was in my head, there it stuck; strong waters could not loosen it, trotting has.'

However much of his time and energy Byron gave to his poetry, it never was for him such an all-absorbing passion as with Keats. All Keats's other interests were subordinate to this. 'I find I cannot exist without poetry—without eternal poetry,' he wrote. 'Half the day will not do—the whole of it—I began with a little, but habit has made me a leviathan.' Yet it did not bring him unalloyed happiness. Perhaps in no other English poet does one find such an intensity of desire to achieve great things, a recognition of genius thirsting for immortal expression, haunted by the fear that death may cut down the husbandman before the rich harvest of the mind has been gathered in. Keats longed to emulate the famous poets of the past. He was not satisfied merely to be known to posterity as a minor poet; only if his name were linked with the great would he rest content. It pleased him as he wrote to be reminded of Milton and Shakespeare. When he went to the Isle of Wight in 1817, he took with him a portrait of Milton and his daughters and hung it on the wall of his room. On his arrival at his lodging he observed a head of Shakespeare which he had never seen before, and when his landlady afterwards presented it to him, Keats regarded the event as a happy omen. There was comfort in the thought that Shakespeare, who, as Keats gathered from his works, had coped with many obstacles, was now watching with a friendly eye the spiritual wrestlings of the young poet. At times, however, the difficulties appeared insuperable and Keats's heart sank within him. Poetic fame seemed to tower aloft on a height which he could hardly hope to scale. 'Perhaps I may have done a good deal for the time,' he wrote to Leigh Hunt, 'but it appears such a pin's point to me, that I will not copy it out. When I consider that so many of these pin-points go to form a bodkin-point (God

send I may not end my life with a bare bodkin, in its modern sense!), and that it requires a thousand bodkins to make a spear bright enough to throw any light to posterity, I see nothing but continual uphill journeying.' Like Shelley, Keats was subject to fits of numbing depression. He was well aware of the morbidity of his 'unsteady and vagarish disposition,' and recognised that, owing to his habit of carrying matters to an extreme, any little vexation grew in five minutes into a theme for Sophocles. He made an effort to resist his despondency, and as long as his health remained good he could rouse himself and shake it off. Difficulties, he would remind himself, nerved the spirit of a man. He never quite despaired and could exclaim 'Thank God! I do begin arduously where I left off.'

These moments of dejection were due to various causes. Frequently they resulted from the strenuous task of composition. It would seem as if Keats many times underwent bodily and mental agony before his ideas took shape in poetry, and for a brief space after the labour was over he experienced a sense of relief. 'I had become all in a tremble from not having written of late,' he told Reynolds; 'the sonnet overleaf did me good. I slept the better last night for it.' The sensations described here are similar to those which Mr. W. H. Davies has conveyed in his poem entitled *Thunderstorms*:

> My mind has thunderstorms,
> That brood for heavy hours:
> Until they rain me words,
> My thoughts are drooping flowers
> And sulking, silent birds.
>
> Yet come, dark thunderstorms,
> And brood your heavy hours;
> For when you rain me words,
> My thoughts are dancing flowers
> And joyful singing birds.

But often with Keats the relaxation of the tension was momentary, the ease fugitive. Before long, it might be within a few hours, some new theme had suggested itself, and his mind was already busied with its fresh task. It was on such an occasion that Keats recalled the words of Spenser:

> The noble heart that harbours virtuous thought,
> And is with child of glorious great intent,
> Can never rest until it forth have brought
> Th' eternal brood of glory excellent.

While it is true that after the composition of *Endymion* was completed there occurs in Keats's correspondence a bright spell of longer duration, it is more usual to see him toiling and struggling. In the Isle of Wight he wrote to Leigh Hunt: 'I thought

so much about poetry, so long together, that I could not get to sleep at night. . . . By this means, in a week or so, I became not over-capable in my upper stories. . . . Another thing, I was too much in solitude, and consequently was obliged to be in continual burning of thought, as an only resource.' He proceeded to join his brother at Margate, in the hope that his company would serve as a distraction, but this intense mental activity had brought him to a low pitch, and he wrote to his publishers: 'I hope soon to be able to resume my work—I have endeavoured to do so once or twice; but to no purpose. Instead of poetry, I have a swimming in my head and feel all the effects of a mental debauch, lowness of spirits, anxiety to go on without the power to do so.' The reaction after the strain of composition was so violent that he thought but little of what he had written and at times was filled with loathing at the result, meagre and poor as it seemed to him, of all his toil. The disproportion between the aspiration and the achievement disheartened him. It is one of these moods of disenchantment which is described in *Sleep and Poetry*:

> The visions all are fled—the car is fled
> Into the light of heaven, and in their stead
> A sense of real things comes doubly strong,
> And like a muddy stream, would bear along
> My soul to nothingness.

External troubles also weighed heavily upon him. Financial worries, coming just at the moment when he was grappling with *Endymion*, made him wish that death would put an end to all. 'I am extremely glad that a time must come when everything will not leave a wrack behind.' A year later new sources of anxiety had arisen. The emigration of George Keats, the illness of Tom, and the responsibility of looking after Fanny Keats cast him into the slough of misery. Apologising to Bailey for his failure to answer a letter before, he says that he has not been in the proper temper. Lethargy has seized him. 'I am now so depressed that I have not an idea to put to paper—my hand feels like lead—and yet it is an unpleasant numbness; it does not take away the pain of existence. . . . I am in that temper that if I were under the water I would scarcely kick to come to the top.' Keats's very devotion to his brother, whom he saw fading away before his eyes, made him reproach himself for even thinking of poetry in such circumstances, and yet the thronging images would not be denied. 'His identity presses upon me so all day that I am obliged to go out—and although I had intended to have given some time to study alone, I am obliged to write and plunge into abstract images to ease myself of his countenance, his voice, and feebleness—so that I live now in a continual fever.

It must be poisonous to life, although I feel well. Imagine "the hateful siege of contraries"—if I think of fame, of poetry, it seems a crime to me, and yet I must do so or suffer.' As the year 1818 wore on, Keats more and more sought refuge from the sorrows of life in the world of the imagination. Stately shapes stood by him; the thought of poems yet to come brought the blood to his forehead; about his heart was 'an awful warmth like a load of immortality.' Composition, in spite of its arduousness, had become his only source of happiness. He must be up and doing, for inaction meant pain of mind or body. Yet to the end he did not find entire joy in his work. Even during the wonderful summer and autumn of 1819 at Winchester, when, resolutely thrusting aside all his cares and the soliciting of his passions, he abandoned himself to the enjoyment of the beautiful season and the venerable calm of the cathedral city—even then, when he must have felt supreme delight at the completion of one masterpiece after another, there was another note, a murmur of regret. The delight was mingled with feverish unrest, and he longed for the distant day when he should be able to compose without this fever.

In some ways Keats was also peculiarly sensitive to his material environment. The never-ending rain during his stay in Devonshire was a brake upon his mind. He lay awake listening to it, and felt like a grain of wheat drowned and rotting in the ground. On the other hand, sunshine came as a liberator. He refers to it time and again in his letters. The setting sun would always put him to rights, and a burst of light in midwinter makes him exclaim: 'I cannot write in prose; it is a sunshiny day, and I cannot, so here goes.' A passage in another letter shows also how the sense of physical well-being aided Keats in his composition. While staying at Winchester, he mentions that whenever he was conscious of approaching melancholy, he would rouse himself, wash, put on a clean shirt, brush his hair and clothes, and then with a pleasing sense of comfort sit down to write.

It is obvious that one of so mercurial a temperament as Keats would find it impossible to treat poetry as a mere matter of skill. His *Sleep and Poetry* shows clearly enough that he conceived of poetry as the offspring of inspiration rather than of art. Poetry, he claimed, should come as naturally as the leaves to a tree, otherwise he would none of it. There is more than one well-known poem by Keats which was written in a moment of rapture. Everyone recalls how he and Cowden Clarke sat up all night in the summer of 1815 reading the copy of Chapman's *Homer* which they had borrowed. Keats left for his lodging at dawn and penned the famous sonnet which Clarke found awaiting him when he came down to breakfast. Another sonnet has a similar

history. When Keats met Haydon in November 1816 he was greatly stimulated and rapidly composed the lines beginning 'Great spirits now on earth are sojourning.' These he despatched to Haydon with a note, saying that he had been worked up to such a pitch that he could not refrain from sending the verses thus inspired. Perhaps we are justified in mentioning in this connexion also Keats's sonnet on his dream after reading Dante's account of Paolo and Francesca. After many days of depression Keats dreamed that he was in hell. He floated about with a beautiful figure to whose lips his were joined, as it seemed for an age, and in spite of the gloom and cold he was warm and joyous. The sonnet was an attempt, unsuccessful, as its author himself lamented, to capture the mood of the dream. Not all Keats's poems, of course, could be written with such speed. Of necessity the process which gave rise to others was longer and more complicated. From isolated passages in his letters it would appear that his mind worked almost sub-consciously upon previous thoughts, sensations and emotions, until at the given moment they blossomed forth into a perfect poem. That is why Keats described poetry as 'the redigestion of our most ethereal musings upon earth,' while elsewhere he tells how the repetition of the silent working of the mind comes continually on the spirit with a fine suddenness. Like other poets, however, Keats did not with unfailing regularity find the inevitable words at the first attempt. Rely as he might on inspiration, he was compelled to revise and modify. To take but one example, it is well known that it was only after repeated experiment that he evolved the beautiful lines of *Hyperion:*

> Not so much life as on a summer's day
> Robs not one light seed from the feather'd grass.

A letter to John Taylor containing an amended version of a passage in *Endymion* is also illuminating, for it shows how an imperfect word would haunt his mind like the jarring notes of a broken chime. He could not rest until he had found one which perfectly represented the thought which he wished to convey.

There was a spiritual bond between Keats and Dante Gabriel Rossetti, and certainly they resembled each other in their sensitiveness to the strain imposed upon them by composition. Even more than Keats, Rossetti was tortured by sleeplessness. So alert was his mind that, as he told his sister, sonnets always meant insomnia to him. In a conversation with Mr. Hall Caine, Rossetti said that the quiet hours of the night seemed to emancipate his thoughts. 'A landscape and sky all unsurmised open gradually in the mind—a sort of spiritual Turner, among whose hills one ranges and in whose waters one strikes out at unknown

liberty; but I have found this only in night-long work, which I have seldom attempted, for it leaves one entirely broken.' One of Rossetti's works written in this way is *Hand and Soul*, all of which, with the exception of an opening page or two, was composed between two and seven o'clock in the morning. But it told heavily on the author, and the utter weariness which he himself felt is conveyed in the description of Chiaro: 'Having finished, he lay back where he sat, and was asleep immediately; for the growth of that strong sunset was heavy about him, and he felt weak and haggard; like one just come out of a dusk, hollow country, bewildered with echoes, where he had lost himself, and who has not slept for many days and nights.' Towards the end of Rossetti's life, as his vitality withered, the arduousness of composition grew ever greater. His *King's Tragedy* in particular made inroads on his failing energies. Time after time when he was struggling with it he would submit what he had written to the judgment of his friend and adviser. But as he read aloud so overwrought was he that he could not check his tears. 'The poet never existed perhaps,' says Mr. Hall Caine, 'who, while at work, lived so vividly in the imagined situation.' At the conclusion of the poem Rossetti felt as if his life had ebbed out.

The robust frame and harmoniously balanced nature of Browning seem to place him in a different category from Keats and Rossetti. Nor was preoccupation with self a characteristic of his work. He loved the dramatic and objective form of presentation and there recorded the results of his observation of men. There is one poem, however, which appears to describe in a dramatic form something of Browning's own sensations during and after the act of composition. In the second part of *Saul* the poet tells how David with the aid of music roused the king from his deadly lethargy. As he played he grew rapt, and in a vision saw the coming of the Messiah, one who should unite love and omnipotence. In a sense the last stanza has nothing to do with David's narrative, which reaches its climax with the dramatic words 'See the Christ stand!' The epilogue describes David's intense excitement, the seething sensations and the controlling intelligence amid it all, the almost unbearable tension and then the gradual relaxation and the holy peace into which all emotion was hushed:

> I know not too well how I found my way home in the night.
> There were witnesses, cohorts about me, to left and to right,
> Angels, powers, the unuttered, unseen, the alive, the aware:
> I repressed, I got through them as hardly, as strugglingly, there,
> As a runner beset by the populace famished for news—
> Life or death. The whole earth was awakened, hell loosed with her crews;

> And the stars of night beat with emotion, and tingled and shot
> Out in fire the strong pain of pent knowledge: but I fainted not,
> For the Hand still impelled me at once and supported, suppressed
> All the tumult, and quenched it with quiet, and holy behest,
> Till the rapture was shut in itself, and the earth sank to rest.

Among living writers we find that Mr. Hilaire Belloc has drawn a very interesting picture of himself at work. It occurs at the end of his book in praise of Sussex, *The Four Men*. He relates how, after wandering hither and thither in the land he loved so well, on the fourth day at evening he climbed upwards through the spinneys, through the folds of the hills, through the tall, silent woods and on to the ridge of the Downs:

> Eastward into the night for fifty miles stretched on the wall of the Downs, and it stretched westward towards the coloured sky where a full but transfigured daylight still remained. Southward was the belt of the sea, very broad, as it is from these bare heights, and absolutely still; nor did any animal move in the brushwood to insult the majesty of that silence. Northward before me and far below swept the Weald.
>
> The haze had gone; the sky was faint and wintry, but pure throughout its circle, and above the Channel hung largely the round of the moon, still pale, because the dark had not yet come.

As he gazed down on the country below and recalled that this was All Saints' Day, the Day of the Dead, his passionate love of Sussex was mingled with an indescribable yearning and a sense of mortality. The names of the villages seemed to inspire an incantation. He felt that 'verse alone would satisfy something at least of that irremediable desire,' and, lying full length on the grass, he began to write. The metre had in a way been with him for hours as he walked along, but only gradually took shape in the chance lines:

> And therefore even youth that dies
> May leave of right its legacies.

He then proceeded to consider what his theme should be. However, this hesitation did not last long, for he 'knew that all creation must be chaos first, and then gestures in the void before it can cast out the completed thing.' So he resolved to make a beginning and wrote down haphazard a line here and a line there as it occurred to him. The thought of mortality returning to him, he wrote:

> And of mine opulence I leave
> To every Sussex girl and boy
> My lot in universal joy.

These words gave the key to the whole poem. Then he bethought him of how we are intermingled with the countryside in which we dwell, and he wrote:

> One with our random fields we grow.

For the moment the middle of the verse refused to come, so he wrote the end:

> Because of lineage and because
> The soil and memories out of mind
> Embranch and broaden all mankind.

This suggested a new idea—if a man remains a part of the never-changing land of his sires, he has defeated Death, and so the words came:

> And I shall pass, but this shall stand
> Almost as long as No-Man's Land.

'No, certainly, he does not die!' was the thought which flashed across the poet's mind, and immediately the last stanzas stood out clearly, and he wrote them down with all possible speed:

> He does not die that can bequeath
> Some influence to the land he knows,
> Or dares, persistent, interwreathe
> Love permanent with the wild hedgerows;
> He does not die, but still remains
> Substantiate with his darling plains.
>
> The spring's superb adventure calls
> His dust athwart the woods to flame;
> His boundary river's secret falls
> Perpetuate and repeat his name.
> He rides his loud October sky:
> He does not die. He does not die.
>
> The beeches know the accustomed head
> Which loved them, and a peopled air
> Beneath their benediction spread
> Comforts the silence everywhere;
> For native ghosts return and these
> Perfect the mystery in the trees.
>
> So, therefore, though myself be crosst
> The shuddering of that dreadful day
> When friend and fire and home are lost
> And even children drawn away—
> The passer-by shall hear me still,
> A boy that sings on Duncton Hill.

With a feeling of relief at having embodied his emotions in metrical form, the poet traced his way homeward across the Downs.

Not less instructive in its particular fashion is the account of the genesis of *The Raven* which Edgar Allan Poe gave in his essay on *The Philosophy of Composition*. In an analysis of singular lucidity he shows how the poem was built up step by step. Having decided that it should be limited in length and melancholy in tone, he sought for a pivot on which the whole

should turn. It was to be the refrain, and after reflection Poe chose the word 'Nevermore' as best suited to produce the desired effect. The next question was, Who should be the speaker of this word in monotonous iteration? A parrot suggested itself, but was rejected in favour of the raven as more in keeping with the pervading tone of melancholy. Then the poet arrived at the conclusion that Death was the most melancholy of all topics, and that it became most poetical if it were the death of a beautiful woman. No one could be better qualified to deal with the theme than a bereaved lover. Poe then proceeded to combine the two ideas, the lover lamenting the dead woman and the raven continually repeating 'Nevermore.' He resolved to make the refrain an answer to the questions of the lover, and now the outlines of the poem began to assume clear shape. The first query was to be a commonplace one, the second less so, the third still less and so on, until at length the lover, roused from his initial indifference by the repetition of the melancholy word and by the reputation of the raven as a bird of ill omen, would excitedly ask questions to which he passionately desired an answer. He would put them in that mood of despair which borders on self-torture, not altogether because he believed in the demoniac character of the raven, but because he felt a morbid delight in anticipating the fateful 'Nevermore.' The last stanza was to be the climax, and having written this, Poe worked his way backward stanza by stanza, and in his essay he elucidates the process with the rigorous precision of a mathematical demonstration.

In the introduction to his essay Poe heaps ridicule on the notion that there is such a thing as inspiration in poetry, making it appear as if those poets who lay claim to it were merely throwing dust in the eyes of the uninitiated multitude. He says:

> Most writers, poets in especial, prefer having it understood that they compose by a species of fine frenzy—an ecstatic intuition—and would positively shudder at letting the public take a peep behind the scenes, at the elaborate and vacillating crudities of thought—at the true purposes seized only at the last moment—at the innumerable glimpses of idea that arrived not at the maturity of full view—at the fully matured fancies discarded in despair as unmanageable—at the cautious selections and rejections—at the painful erasures and interpolations—in a word, at the wheels and pinions—the tackle for scene-shifting—the step-ladders and demon-traps—the cock's feathers, the red paint and the black patches, which, in ninety-nine cases out of the hundred, constitute the properties of the literary *histrio*.

In spite of this tirade, and in spite of the revelation of the procedure adopted in the composition of *The Raven*, one is convinced that this is not the whole story. Not all poetry is written in the severely logical manner thus described, and although he does not examine the problem of the hundredth poet in detail,

even Poe seems to admit the possibility of inspiration in exceptional cases. One is left with a vague feeling that Poe was in some ways akin to Henry James, who insisted so strongly on the importance of technique and the deliberate contrivance of effect in the novel. But just as Scott frequently sat down to write without any definite plan before him, just as Dickens let the *Pickwick Papers* grow under his hand, so there are poems which owe their origin to a process less rational and less capable of analysis than the one which Poe demonstrates. The authority of Shelley may be quoted against him: 'Poetry differs in this respect from logic, that it is not subject to the control of the active powers of the mind, and that its birth and recurrence have no necessary connexion with the consciousness or will.' Again, if the composition of poetry were so much a matter of will as Poe suggests, why should Coleridge after the departure of his visitor have been unable to resume his tale of Kubla Khan? And why should Goethe, waking in the night, in feverish haste scribble down the poem which had come to him, without even pausing to light his candle?

From the survey which we have made the conclusion may be drawn that long before the poem is actually written down a process of gestation has begun, and in due season under some auspicious combination of circumstances the work sees the light. Sometimes a feeling of physical well-being, not infrequently the result of a rhythmic stimulus, may give the final impetus. But the birth-pangs are severe and exhausting, and the poet is afterwards left with a sensation of relief which may amount to exultation or of lassitude bordering on prostration. Later comes the task of revision and adjustment, a task which, though usually on a lower plane, is by no means to be despised nor always devoid of inspiration.

There is a peculiar interest attaching to these glimpses of the poets at work, and one is led to speculate on the methods and feelings of their older compeers. How we should prize the record of an intimate conversation with Dante about the composition of the *Divine Comedy* or the *Vita Nuova!* How eagerly we should con the journal of Chaucer! And what would we not give to tarry for a while behind the scenes with him who wrote:

> The poet's eye, in a fine frenzy rolling,
> Doth glance from heaven to earth, from earth to heaven;
> And, as imagination bodies forth
> The forms of things unknown, the poet's pen
> Turns them to shapes, and gives to airy nothing
> A local habitation and a name?

HERBERT G. WRIGHT.

MEMORIES OF 1914—1918

VII. The Marshes of the Yser

The frustrate hopes of 1917 constitute in the minds of many soldiers the darkest memories of the war. Notwithstanding the heavy casualties and long-drawn-out fighting of the Somme, the *moral* of the Army was as high in the spring of 1917 as it had ever been. The chivalrous ardour of the early days had passed, but in its place there had come a grim resolution which was as sure an earnest of victory. Those who had fought across the wilderness of shell holes filled with human wreckage which lay around Thiepval, Guillemont, and a score of other villages on the Somme were not likely to have many illusions as to the price of victory. Yet there was a belief that the breakdown of the weather in the autumn had alone prevented a decisive success, and that the increase in our strength, both in men and in guns, and the opportunity of taking the offensive early in the year, would make victory inevitable. The year started well for my regiment with an action at Cépy Farm, near St. Quentin, which earned for it the thanks of the commanders of the 4th and 5th Armies and of the Commander-in-Chief. The order of the day, signed by General Lumsden, who won the Victoria Cross, stated that 'the dash with which your battalion attacked and the tenacity with which it has held on to Cépy Farm under intense and continuous artillery bombardment are not only object-lessons to us all, but are in accordance with the highest traditions of the British Army.' St. Quentin lay, a tempting prize, below; the Germans were for the moment demoralised. The men were eager to continue the attack, but the Staff, knowing well that the devastated country to the west precluded the arrival of supporting troops and guns in adequate numbers, would not countenance any further advance.

Shortly afterwards news arrived of the great success of the first day of the Battle of Arras. The Canadians on the left, and Scottish and English divisions on the right, stormed the heights of Vimy which had remained in German hands after the great French offensive in Artois two years before. Few can have

anticipated that the splendid *élan* of the spring of 1917 would have earned no higher reward than the crests of Vimy and Messines and an area of a few square miles in the vicinity of Ypres reduced by shell-fire to a vast and noisome swamp.

At no time in the war was the *moral* of the Army more near to breaking than in the carnage of the Third Battle of Ypres. The war of attrition had few advocates among those who were enabled to judge its merits, and the extent of its success, in the abomination of desolation which stretched from Houthulst Forest to Passchendaele. Here men picked their way under withering shell fire towards the forward area along duck-board tracks between shell holes. The wounded fell into shell holes and were drowned in their fœtid depths. In the forward area, where the duck-board tracks could not penetrate, men floundered in and out of shell holes, vainly seeking to keep their feet, in the wake of a creeping barrage, which, however slow it crept, was soon far ahead. In October the provisional orders for an advance in the direction of Westroosebeke gave my company eight minutes for every 100 yards, but even this pace proved in the course of the month to be far beyond the capacity of men in the prevailing conditions. The shortest advance was bought at the price of heavy casualties and complete exhaustion. In June of 1916 I had drawn for the benefit of my company a picture of the forward sweep of the British and French Armies on the Somme, and of the Russians in the east, with Victory at the end of the year. In the autumn of 1917 I could tell them only that their *rôle* was to 'kill, kill and keep on killing' till at some date, which no one now cared to forecast, a collapse of the German *moral* should set in.

The true facts of the situation might be concealed from those at home by the reiteration of success in every Press announcement; they could not be concealed from those who had first-hand evidence of the cost at which half a dozen pill-boxes and a few hundred yards of swamp were bought. The later stages of the battle could only have been fought by an army so well disciplined as to be content to be sacrificed for reasons which could not be deduced from the military situation patent to their eyes. It is to the credit of the citizen armies of Great Britain and the Dominions that in the course of three years they had achieved such a discipline. It is some consolation to them to-day to know that the continuance of the Third Battle of Ypres in the late autumn of 1917 was ordered for political as much as for military reasons, and that the 'steady, grim, despairing ranks' who struggled forward inch by inch, till at last a ruin reported to have been known once by the name of Passchendaele fell into their hands, saved the Allies from political disruption and defeat.

Yet hope came when it was least expected, and set men thinking of what might have been, had the strategy of 1917 taken another course. Late in November, in a hospital peopled for the most part by the wounded of Passchendaele, the calm of the evening was disturbed by two new arrivals. One was a very young subaltern of infantry, slightly wounded in the arm; the other a veteran in the Tanks, with a bandaged head. 'Ypres?' we inquired casually. 'No,' the answer came; 'down south near Cambrai.' 'Did you pass the hundred yard mark?' 'A hundred yards!' echoed the subaltern scornfully. 'I went the better part of three miles, and I was the first man in the battalion to be hit.' The wounded of a less happy occasion laughed grimly and turned to the tank commander for more authentic news. But his experience had been little less fortunate. He spoke of the gathering of the tanks in the shelter of the great wood, and their successful advance over line after line of trenches. He described the advance of the Highland Territorials in the wake of the tanks, their casual bearing as they emerged from our trenches, their hands in their pockets and their rifles slung, their onslaught with the bayonet on the German front line, and their subsequent reappearance a little while afterwards, each with a looted cigar in his mouth, but otherwise still bearing a contemptuous and quite unruffled appearance, until the occurrence of another line of trenches required a further recourse to their bayonets. He told also the story of a German artillery officer, the last survivor of his battery, who single-handed served his gun and knocked out tank after tank as they came over a rise near Flesquières. The tank commander had himself been wounded by a direct hit on his tank by this gunner. This did not in any way affect his admiration for a man whose superb courage and resolution turned the fortunes of the day, and whose memory is still honoured, though his name is unknown, by the soldiers of two nations. At last the infantry closed on him, and would have spared his life, but he refused to surrender, and was killed at the gun which he had served so well.

The circumstances of infantry fighting in the war were not such as to engender a chivalrous attitude towards the enemy; indeed, a sustained chivalry existed only in the clean warfare carried on in the air. But there were occasions when a superb act of courage received as much honour from foe as from friend. I have been told by an officer of the Machine-Gun Corps that on the first day of Arras he reached the limit of our advance and found that it was held up by a German gunner firing over open sights. At last the gunner was surrounded and, still in the act of firing his gun, was killed. Late that night, when this line still represented the furthest limit of advance, and the position was

one of the utmost danger, he was going round his posts when he found that some of his men had ceased for a few minutes from consolidating their position. They were burying the German gunner, alone of all the dead around.

It is on record also that when Ovillers surrendered, after sixteen days of bomb and bayonet fighting in its ruins, the British troops came to the salute as the small remnant of the German garrison passed through to our lines. Yet these instances were so rare as to pale into insignificance before the number of deeds of violence done by angry men, whose experiences had filled their hearts with cold fury and disgust. Chivalry could hardly survive in the desolate swamps which lay north of Ypres and the Yser Canal.

Yet it was on the Yser in 1917 that we spent some of the most interesting, and latterly some of the most quiet, days during the war. Certain divisions were chosen to carry out an attack of a particularly hazardous character on the Belgian coast. The attack was to be a combined operation with the Navy on the one part and with the 5th and 2nd Armies before Ypres on the other. A small area of polder and dune stretching from the mouth of the Yser, which was here canalised, to the village of St. Georges was taken over from the French by the 1st and 32nd Divisions in preparation for this enterprise. It was reported that the 1st Division were in quarantine owing to an infectious disease, but it was understood that they were in fact undergoing a course of aquatics and were in the hands of swimming instructors.

The Germans were not deceived, and early in July put in a counter-offensive in anticipation of our attack, and at a time when our guns were not in position and our troops were unfamiliar with the terrain. No more admirable place for a minor offensive could have been chosen. The bridgehead of Nieuport was of a reasonable size and was protected by Vauban's Redan, a great earthwork honeycombed by passages and deep dug-outs in which a battalion could be concealed and move freely from one position to another in complete immunity from shell fire. Fifteen-inch shells occasionally put out the lights, but shells of smaller calibre almost escaped notice. But the approaches to the redan led over the locks of the canalised Yser and crossed five bridges in quick succession. These bridges were destroyed by gun fire, the front line being but a few hundred yards distant, on the smallest evidence of activity on our part, and the sapper company charged with their maintenance suffered casualties far in excess of those of the infantry. To the west of Nieuport our front line ran in the sand dunes on the north bank of the Yser. To the east the line reached no further than the towpath on the far bank of the canal, and the barrel bridges by which it was approached were

commanded by German machine-gun posts established on both banks of the canal.

Two battalions of the 1st Division (the Northamptons and the 60th Rifles) held the sand dunes west of Nieuport on the morning of July 10; the bridgehead of Nieuport and the redan were held by the 32nd Division. A bombardment of great intensity destroyed every bridge and isolated all the battalions north of the Yser. An attack followed. The battalions of the 1st Division, cut off from any chance of retreat and with no room in which they could manœuvre, set themselves to sell their lives at the highest cost. When night came, four officers and seventy men swam the Yser and came safely to our lines; they were all who remained. The 32nd Division, though isolated, had more room to manœuvre, and after heavy fighting all day around Vauban's Redan, this magnificent earthwork and the bridgehead of Nieuport were still in our hands. Vauban can hardly have anticipated that his redan would have rendered its most notable service to France in the year 1917.

After July 10 this sector became relatively quiet. The thunder of the guns to the east spoke of the great battles raging before Ypres. The Germans had no men to spare for minor enterprises, and showed little disposition to press the advantage which they had gained. Their troops in the line were the least combative of any in my experience, and, notwithstanding the security of their own positions and the exposed character of the British lines, they appeared to want nothing better than to be left alone. No attack was in fact made by the 1st and 32nd Divisions. Matters progressed so ill in the Flanders offensive that the main strategic plan of freeing the Belgian coast was abandoned. In the autumn the divisions destined to take part in this enterprise found their way to the swamps near Westroosebeke, where their training for amphibious warfare stood them in good stead.

In the meantime there was much that was new and interesting in the dune and polder country to troops who had grown weary of the grey and monotonous landscape of Flanders and the vast expanses of ravaged countryside which lay between the Hindenburg line and the old front line of 1916. Nieuport was not greatly different from other towns lying in the near vicinity of the front line. Nieuport Bains, a summer resort lying at the mouth of the Yser and adorned by the usual gimcrack villas, was levelled nearly to the ground, and the other 'bains' which occurred down the coast line were much bespattered by shell fire. War seemed more than usually odd as one sat in some convenient fold of the dunes and watched the waves lapping the belts of wire on the shore and the play of machine-guns over the sands where but a

short while before men and women had kept holiday and children had built sand castles.

But the sand dunes did not show the traces of shell fire in the same degree as the chalk country of the Somme. Shells exploding in the sand appeared to be choked in the loose texture and to have a limited effect. I observed a heavy shell explode one day in our horse lines between two rows of picketed horses. I expected most of the horses to be hit, but no horse was touched, and the shell hole was of small dimensions. The country to the east of the dunes was low-lying polder. The fields, trim and orderly, were intersected by innumerable ditches, full of water, rendering the movement of men difficult in the daytime and well-nigh impossible at night, except on the roads. On the right of the British line in the vicinity of the village of St. Georges the country had been flooded in 1914 when the Belgians opened their dykes in order that one small strip of Belgium might still remain inviolate. The flooded country was traversed only by the high towpaths of the Yser Canal and by a number of causeways and duck-board tracks. The defences took the form of breastworks and strong points constructed of concrete or fashioned out of the ruins of the farms.

An active enemy could have made life intolerable in these marshes. The breastworks were inadequate and often unprotected from the rear. The causeways which led to them were few and wholly exposed. The German lines lay in an arc round the Nieuwland Polder and the village of St. Georges, enabling their machine-gunners to fire at short range either in enfilade or from the rear down most of the causeways and breastworks. Bullets appeared to come from all sides. The most exposed part of the line was the towpath on the far bank of the canal. The line ran here in an easterly direction for 1300 yards until a post was reached where it ended. It was then resumed on the near bank and ran south. The Germans had machine-gun posts within a short distance of our line on each bank and could fire in direct enfilade down the canal, effectually denying any chance of reinforcement of the troops on the far bank. The frail bridges of barrels lashed together, which represented the only means of approach, were dangerous to cross in the darkest hour of the night. In the daytime, and at times of serious activity, they could be rendered impassable. It was always an interesting problem to judge the correct pace for a successful crossing. If a man went too fast, the barrels lurched to one side or the other and projected him into the canal. If he went too slow, the German machine-gunners caught him. The approaches to the bridges were aptly named ' Nasty Avenue ' and ' Nasty Walk.'

Security was, however, conferred in some measure by the

inactivity of the Germans and by the mist which rose from the swamps soon after sunset. Even on a moonlit night the ground visibility extended only for a short distance. On many nights the mist was so thick that it was difficult to see more than a few yards. Posts were far apart, and it was easy to lose one's way on the causeways connecting them. On the first night when I went round my posts I went alone, and although I had reconnoitred them in the daytime I was soon compelled to admit that I had lost all sense of direction, and from time to time I arrived at a post not knowing whether it was tenanted by friend or foe. The causeways were composed of narrow duck-boards, and when they were swept by machine-guns it was impressed on my mind that a man, however lightly wounded, would probably fall into the marsh and be no more seen. I felt very lonely, and there was something uncanny in the chance sights and sounds which came out of the mist. The stuttering of the machine-guns blended weirdly with the cries of the wildfowl, while the boom of distant naval guns and the muffled screech of the great shells passing far overhead were punctuated by the rhythmic throb of giant bombing aeroplanes on their way to Bruges or Dunkirk. In the mist also men passed as shadowy forms, and ruined buildings suddenly loomed up and as soon disappeared. Of these the most strange was the ruined Chapel of St. Georges. I had a sense that I had seen it before, and later it came to my mind that Tennyson had conceived just such a scene for the 'last dim weird battle of the West,' fought by the remnant of the Knights of the Table Round.

> A death-white mist slept over land and sea,
> Whereof the chill, to him who breathed it, drew
> Down with his blood, till all his heart was cold
> With formless fear; and even on Arthur fell
> Confusion, since he saw not whom he fought,
> For friend and foe were shadows in the mist.

The chapel of St. Georges, which seemed to me so familiar, was the chapel nigh the field to which Arthur was borne:

> A broken chancel with a broken cross,
> That stood on a dark strait of barren land,
> On one side lay the Ocean, and on one
> Lay a great water, and the moon was full.

There were certain disadvantages in living on barren land surrounded by a great water. It was impossible to dig down more than a few inches, and the French had buried their dead where they fell. The mist spoke of fever, and the fauna at all times to be found in trenches here attained a number and a virulence which were admitted by all (even by one of my subalterns who had been on Gallipoli) to be without parallel in their

experience. My wrists, for which the mosquitoes had a particular predilection, were so covered by bites that they became swollen and shapeless. The immediate result was to reduce my vitality and to make me easily tired.

I discovered this one night when I was making my way down the long road which led from Nieuport to the south. It stretched interminably before me; in the canal which bordered it the moon, blood-red in the enshrouding mist, was reflected, accompanying me on my way. I became more and more weary, and at last was on the point of giving up, when I heard far away in the mist the sound of the *Marseillaise*. I was suitably impressed and moved forward again on my way; the phenomenon was explained later when a platoon of Highlanders emerged, a group of shadowy forms, only to disappear again into the mist ahead. On another occasion I was overcome by fever in the earliest stages of a march of twelve miles. I could hardly see the ground at my feet, but I was able mechanically to keep pace with the man in front. It was not, however, an easy matter, and when the march ended I collapsed.

But the casualties, other than from sickness, in the Yser marshes were few. The regiment was in good heart and undismayed by the failure of the 1917 offensive and the prospect of another winter in Flanders. When a dangerous enterprise was planned, every subaltern in the regiment submitted an application to be placed in charge of it. A company commander advanced the technical point that his promotion had not appeared in the *London Gazette*, and he was therefore still the senior subaltern, with a traditional right to claim the leadership of such enterprises. His claim was upheld, but he became the object of as much dislike on the part of the other subalterns as if he had cheated at cards.

Among the men there were still a few who had survived three years of constant fighting and had now before them a fourth winter of war, with all its attendant misery and exposure. But these 'Old Contemptibles' had not yet lost heart. One night I found beyond the Yser one of my sergeants throwing sandbags on to a breastwork. I ascertained that he regarded himself as still 'in the pink.' He informed me that he could manage everything except the long marches, but that this did not really matter, as the colonel allowed him to come up to the trenches in an ambulance or any transport available. This man was well over military age, and had caused much entertainment in the early days of the war. His son, who was too young for the Army, had enlisted by the simple expedient of overstating his age. The sergeant was furious and ordered him to return home to look after his mother. The son very properly drew attention to the fact

that his father was over age and that it was his duty to look after his wife. But discipline was strong in that Dorset family, and the father remained in the Army while the son returned sorrowfully home, a statement of the son's iniquity having been duly communicated to the 'proper authorities' by his indignant parent.

The exchange, moreover, of fraternal greetings with the Belgian army on our right was an unfailing source of amusement. The Dorsets shared the common illusion of the forces in France and Flanders that they were masters of the native tongue, and there were Belgians who were confident that they spoke English. The right-hand post of the British Army lay on the bank of a canal known as the Groot Beverdyk Vaart; on the far side of the canal was a Belgian post. Communication was maintained by a barrel attached by a rope to each bank. One moonlit night I was standing with some Dorsets looking over the canal when a Belgian made signs on the far bank which were interpreted to mean that he wished to fraternise. He seated himself on the barrel and was pulled across. Landing with some difficulty, he rose to his full height, saluted me and said, 'Ello, my boy! Me speak Eengleesh.' I cast a stern glance at my Dorsets, but it was unnecessary. The natural courtesy of the men of Wessex prevented any demonstration louder than a smile.

My knowledge of French was little better than the Belgian's knowledge of English, and within a short time the barrel was again proceeding on its precarious way to the opposite bank. Indeed, on looking over old letters I gather that much of my time was devoted to making myself understood, and I find constant reports of conversations with the natives which did not lead to any satisfactory result.

It is of interest to read letters written at the front, as in some degree they reveal what was the reaction of one's mind day by day to the abnormal life occasioned by the war, and they correct the impression which now remains, distorted by many years of secure and normal life. It is very clear that nearly every day contained something diverting; indeed, a casual reader would deduce that the great variety of humorous incidents was the main feature of life at the front. I seem to have had about this time a misfortune owing to a colonel evicting a subaltern from a tent known as Villa Mon Désir during the night. Arriving shortly after dawn, I made an effort to rouse the supposed subaltern, and my language worsened steadily until a grizzled figure appeared in pyjamas. 'Luckily,' the letter concludes, 'it is a foggy morning.'

It is strange, in reading these letters, to recall to mind the circumstances in which many of them were written. At this

time I had a strong premonition that my days were numbered, and this premonition developed into certainty one day when I had occasion to acquire a duty which seemed to me, from an intimate knowledge of the circumstances, to confer no chance of survival on the leader, and little, if any, chance on the men with him. I remember passing down a duck-board track in the afternoon, and reflecting, as I watched the sunshine on the marshes, how death, once so strange and terrible, had become almost a matter of routine. A dead man lay outside the door of my headquarters dug-out, waiting till night should come and he might safely be taken away. He excited no more attention than if he had been asleep. When the lives of all were forfeit, the prospect of losing one's life before another dawn did not present itself as a great misfortune. I must have written a letter that evening, yet it is not identifiable; nor indeed are other letters at that time concerned with any but trivial matters, except one letter in which there is a statement: 'I am as eager now as then' (referring to 1915), and another which contains a cryptic remark: 'Victory is sure, but we will have to pay a heavy price for it.' In the event I survived that occasion because our line was unexpectedly taken over by another battalion during the early part of the night.

A few days later I enjoyed my twenty-first birthday in Dunkirk. There were two restaurants open in that much-bombed city. I was billeted in a suburb, and my progress towards the centre of the town through its dark and untenanted streets was punctuated by a rain of bombs from a squadron of German aeroplanes overhead. The distance to the nearest aerodrome being some thirty miles, bombing was continuous all night, and every night, at this time, and each aeroplane was able to drop four bombs at a time. Night in Dunkirk was one long thunderstorm, without the rain, and even that effect was not always lacking, as it was very easy in the darkness to walk into one of the many canals. I reached, however, the Place Jean Bart and went to ground in the restaurant to wait for my friend, Robin Kestell Cornish, with whom I had arranged to celebrate my coming of age. He did not turn up, having failed to get my message. I had accordingly a rather melancholy meal with half a bottle of cheap claret in lieu of the promised champagne. I returned in due time to my billet and went to bed in an attic. I awoke a little later and thought that the night was unusually noisy, even for Dunkirk. I found next morning that the German navy had made a raid along the coast, and that the noise which had awakened me had been caused by the obliteration of the chimney stack immediately above my attic. So ended my twenty-first birthday, and I recorded in a letter my great satisfaction that it

had been spent out of the line. A more successful dinner appears to have taken place in Dunkirk. There was certainly enough to drink, and the wine fulfilled its traditional *rôle* of inducing the telling of the truth at last, for my letter concludes: 'At the front the only thing to do is to live well and forget while you can. The most fatal mistake is to think at all.'

C. O. G. DOUIE.

Communications should be addressed to the Editor of the NINETEENTH CENTURY AND AFTER, 10 & 12, *Orange Street, Leicester Square, W.C.* 2.

Letters as well as articles will be considered for publication, but letters should be confined to criticism or amplification of articles which have already appeared in the Review. No anonymous contribution is published.